

Georgia Department of Natural Resources

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Chris Clark, Commissioner

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404/656-2833

September 24, 2010

VIA MAIL COURIER

Ms. Donna Seadler
Superfund Site Assessment Manager
U.S. Environmental Protection Agency
Waste Management Division
Superfund Site Evaluation Section
61 Forsyth Street, SW
Atlanta, Georgia 30303-3104

RE: Milliken and Company – Hillside Plant
LaGrange, Troup County, Georgia
Site Inspection Report

Dear Ms. Seadler:

Enclosed you will find a Site Inspection (SI) report that has been completed for the above referenced site. Should you have any questions or comments regarding the SI report, please contact me at (404) 657-8600.

Sincerely,



Andrew S. Taft
CERCLA Site Assessment Coordinator
Hazardous Waste Management Branch

cc: David Brownlee, EPD (w/o enclosure)

File: CERCLA Pre-Remedial (FY-2010)

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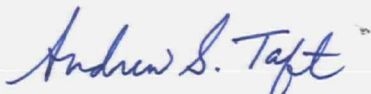
SITE INSPECTION

**MILLIKEN & COMPANY – HILLSIDE PLANT
LAGRANGE, TROUP COUNTY, GEORGIA
GAD 981 275 993**

PREPARED FOR:

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION IV
ATLANTA FEDERAL BUILDING
61 FORSYTH STREET, S.W.
ATLANTA, GEORGIA 30303-3415**

PREPARED BY:



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REVIEWED BY:



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SEPTEMBER 2010

VOLUME 1 OF 2

TABLE OF CONTENTS

TABLE OF CONTENTS

NARRATIVE REPORT (see Narrative Tab)

- 1.0 Introduction
- 2.0 Site Description
 - 2.1 Site Location
 - 2.2 Site Description
 - 2.3 Operational History and Waste Characteristics
 - 2.3.1 Operational History
 - 2.3.2 Waste Characteristics
- 3.0 Waste/Source Sampling
 - 3.1 Waste/Source Sample Locations
 - 3.2 Waste/Source Analytical Results
 - 3.3 Waste/Source Conclusions
- 4.0 Groundwater Migration Pathway
 - 4.1 Hydrogeology
 - 4.2 Groundwater Migration Targets
 - 4.2.1 Target Population, Nearest Well and Wellhead Protection Area
 - 4.2.2 Resources
 - 4.3 Groundwater Sample Locations
 - 4.4 Groundwater Analytical Results
 - 4.5 Groundwater Conclusions
- 5.0 Surface Water Migration Pathway
 - 5.1 Hydrology
 - 5.1.1 Overland Run-off Route
 - 5.1.2 Target Distance Limit
 - 5.2 Surface Water Migration Targets
 - 5.2.1 Drinking Water Threat
 - 5.2.2 Human Food Chain Threat
 - 5.2.3 Environmental Threat
 - 5.2.3.1 Wetlands
 - 5.2.3.2 Aquatic Sensitive Environments
 - 5.3 Surface Water/Sediment Sample Locations
 - 5.4 Surface Water/Sediment Analytical Results
 - 5.5 Surface Water/Sediment Conclusions
- 6.0 Soil Exposure and Air Migration Pathways
 - 6.1 Physical Conditions
 - 6.2 Soil Exposure Targets
 - 6.2.1 Resident Population, On-Site Workers and Nearby Population
 - 6.2.2 Terrestrial Sensitive Environments
 - 6.2.3 Resources
 - 6.3 Air Migration Targets
 - 6.3.1 Target Population and Nearest Individual
 - 6.3.2 Sensitive Environments (Aquatic and Terrestrial)
 - 6.3.3 Resources
 - 6.4 Surface Soil Sample Locations
 - 6.5 Surface Soil Analytical Results
 - 6.6 Air Monitoring
 - 6.7 Soil and Air Conclusions
- 7.0 Overall Summary and Conclusions

TABLE OF CONTENTS (CONTINUED)

REFERENCES (see References Tab)

LIST OF FIGURES (see Figures Tab)

Figure 1:	Site Location, Site Reference Point & Approximate Site Boundaries
Figure 2:	Site Sketch
Figure 3:	On-Site & Contiguous Residential Sample Locations (Waste, Surface Water/Sediment & Soil)
Figure 4:	Off-Site Sample Locations at Granger Park (Pond Surface Water/Sediment & Soil)
Figure 5:	Site Reference Point, Groundwater Target Distance Limit (TDL) & Air TDL
Figure 6:	Overland Run-Off Route & Probable Point of Entry
Figure 7:	Probable Point of Entry & Surface Water Target Distance Limit
Figure 8:	Qualifying Wetland Frontage Located Within Surface Water Target Distance Limit
Figure 9:	Artistic Representation of the Highscale Shiner (<i>Notropis hypsilepis</i>)
Figure 10:	On-Site & Off-Site Sample Locations (Stream Surface Water/Sediment)
Figure 11:	Area of Surface Soil Potentially Contaminated with Arsenic

LIST OF TABLES (see Tables Tab)

Table 1:	Phase II of II Sample Collection
Table 2:	Waste Analytical Results
Table 3:	Surface Soil Analytical Results
Table 4:	Subsurface Soil Analytical Results
Table 5:	Number of Domestic Wells & Population on Domestic Wells Per Concentric Distance Category
Table 6:	Estimated Average Annual Flow Rates of Blue John Creek & Long Cane Creek
Table 7:	Protected Species Reported to Occur in Troup County, Georgia.
Table 8:	Phase I of II Sample Collection
Table 9:	Stream Surface Water Analytical Results (Target Distance Limit)
Table 10:	Stream Surface Water Analytical Results (Overland Run-Off Route)
Table 11:	Stream Sediment Analytical Results (Target Distance Limit)
Table 12:	Stream Sediment Analytical Results (Overland Run-Off Route)
Table 13:	Pond Surface Water Analytical Results (Target Distance Limit)
Table 14:	Pond Sediment Analytical Results (Target Distance Limit)
Table 15:	Number of Individuals Per Concentric Distance Category

TABLE OF CONTENTS (CONTINUED)

LIST OF APPENDICIES (see Specific Appendix Tabs)

- Appendix A: August 10, 2007 Trip Report Documenting July 19, 2007 On-Site Reconnaissance, Milliken and Company, LaGrange, Troup County, Georgia.
- Appendix B: March 1, 2010 Trip Report Documenting February 24, 2010 On-Site and Off-Site Reconnaissance, Milliken and Company, LaGrange, Troup County, Georgia.
- Appendix C: March 2010 Sampling and Analysis Plan for Site Inspection, Milliken and Company, LaGrange, Troup County, Georgia.
- Appendix D: May 14, 2010 Trip Report Documenting April 19 and 20, 2010 Sampling Event (Phase II of II), Milliken and Company, LaGrange, Troup County, Georgia.
- Appendix E: Laboratory Reports, QA/QC Batch Reports, Request for Laboratory Analysis Sheets and Chain of Custody Records for Environmental Samples Collected April 19 and 20, 2010 (Phase II of II), Milliken and Company, LaGrange, Troup County, Georgia
- Appendix F: September 7, 2010 Trip Report Documenting September 1, 2010 Off-Site Reconnaissance, Milliken and Company, LaGrange, Troup County, Georgia.
- Appendix G: March 17, 2010 Trip Report Documenting March 15, 2010 Sampling Event (Phase I of II), Milliken and Company, LaGrange, Troup County, Georgia.
- Appendix H: Laboratory Reports, QA/QC Batch Reports, Request for Laboratory Analysis Sheets and Chain of Custody Records for Environmental Samples Collected March 15, 2010 (Phase I of II), Milliken and Company, LaGrange, Troup County, Georgia.
- Appendix I: E-Mail From Mark Moe, Environmental Chemist, Milliken and Company RE: Current Number of Workers, Defunct Water Treatment Plant Tank Volumes and Split Samples Collected April 19 and 20, 2010.
- Appendix J: Telephone Conversation with Residential Property Owner Michael Keely RE: Ownership Confirmation, Current Number of Occupants and Contiguous Residential Properties to the North and South.
- Appendix K: Wetland Maps from Wetlands Online Mapper Website.

NARRATIVE REPORT

SITE INSPECTION
MILLIKEN & COMPANY
LaGrange, Troup County, Georgia
EPA ID No. GAD 981 275 993

1.0 INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Georgia Environmental Protection Division (GA EPD) of the Georgia Department of Natural Resources conducted a Site Inspection (SI) at the Milliken & Company Site (hereinafter referred to as "site"), located in LaGrange, Troup County, Georgia. The purpose of the SI is to collect information concerning current conditions at the site sufficient to assess the immediate and/or potential threat posed to human health and/or the environment, to determine the need for additional investigation under CERCLA/SARA or other authority; and, if appropriate, to support site evaluation using the Hazard Ranking System (HRS) for possible proposal to the National Priorities List (NPL), (Ref. 1). In addition to the HRS, evaluation tools included the *Hazard Ranking System Guidance Manual*, the *Guidance for Performing Site Inspections Under CERCLA* and the quick reference fact sheet titled: *Establishing Areas of Observed Contamination* (Refs. 2, 3 & 4).

The scope of the SI included a review of available file documentation, a comprehensive target survey and the following field activities (see designated Attachment in parenthesis for associated trip report):

- On-site reconnaissance conducted July 19, 2007 (see Appendix A);
- On-site and off-site reconnaissance conducted February 24, 2010 (see Appendix B);
- Phase I of II sampling event conducted March 15, 2010 (see Appendix G);
- Phase II of II sampling event conducted April 19 and 20 (see Appendix D); and
- Off-site reconnaissance conducted September 1, 2010 (see Appendix F).

2.0 SITE DESCRIPTION

2.1 Site Location

The site is located at 1300 Brownwood Avenue, within the city limits of LaGrange, Troup County, Georgia, approximately one and one half (1½) miles southwest of the city square (Refs. 5 & 6), (see Appendix A: Attachment A: Photo 1 of 8). Geographical coordinates of the site reference point are approximately 33° 01' 22" North Latitude and 85° 03' 00" West Longitude, as measured from a point located near the northeast corner of the on-site fire pond [as depicted in the 1:24,000 scale

1964 LaGrange Quadrangle (Photo-revised 1982)]. The site location, site reference point and approximate site boundaries are depicted in Figure 1.

Based upon available data for the time period extending from 1941 thru 1970, average annual rainfall for the Troup County area was approximately fifty-two (52) inches (Ref. 7). During that same time period, average annual run-off for the area was approximately 18 inches. The site is not located within a most significant groundwater recharge area (Ref. 8). Located within the Piedmont Physiographic Province, the area of the site has a lower groundwater pollution susceptibility rating relative to other areas of Georgia such as the Valley and Ridge Physiographic Province and portions of the Coastal Plain Physiographic Province (Refs. 9 & 10).

The western portion of the site, including most of the on-site fire pond, is located within a one hundred (100) year flood plain associated with a tributary to Blue John Creek (Refs. 5 & 11). A 1982 Flood Insurance Rate Map identifies the tributary as Lee Branch (Ref. 11). A portion of the eastern side of the fire pond has been designated as an area between the limits of a one hundred (100) year flood and a five hundred (500) year flood. The remainder of the site has been designated as an area subject to minimal flooding (Refs. 5 & 11).

2.2 Site Description

Milliken & Company currently owns the site (Ref. 5). Headquartered in Spartanburg, South Carolina, the company operates over fifty-five (55) facilities worldwide and claims to be one of the largest privately held textile and chemical manufacturers in the world (Ref. 12).

Surrounded by private residences of the Hillside Community, the site is bounded to the north by Brownwood Avenue, bounded to the east by Lincoln Street, part of Fourth Avenue and Valley Street, bounded to the south by undeveloped property and bounded to the west by the backyards of private residences located on Taft Street, Stonewall Street, Fourth Avenue and Houston Street (Ref. 5 & 13). The approximate site boundaries are depicted in Figures 1, 2 & 3.

Tax Parcel Numbers 060-2A-018-001 and 060-2A-018-002 comprise the majority of the site (Refs. 5, 13 & 14). At the time of the July 2007 site reconnaissance, a site representative confirmed that Milliken & Company had recently purchased a few private residential lots located on the west side of Palm Street, near the northwest corner of the site (Ref. 5). The homes associated with these private residential lots have since been demolished. For the purposes of this SI, the site is considered to be approximately forty (40) acres in size (Refs. 5, 13, 14 & 71).

The site occupies part of a hillside that slopes south (Refs. 5 & 6). Originating just north of the site, Lee Branch (a tributary to Blue John Creek) flows southeast a short distance before entering the site via culvert underlying Brownwood Avenue (Refs. 5, 6 & 11), (see Appendix A, Attachment A: Photo 8 of 8). Lee Branch is then conveyed south, via underground ancillary equipment, to a second culvert located near the northwest corner of the on-site fire pond (see Appendix A, Attachment A: Photo 2 of 8). From that point, Lee Branch re-surfaces and flows southeast (between the fire pond and the site's western boundary) before entering a culvert underlying Fourth Avenue (see Appendix A, Attachment A: Photos 3 & 4 of 8).

The fire pond occupies much of the western side of the site (Refs. 5 & 6), (see Appendix A, Attachment A: Photos 2 & 4 of 8). According to a 1921 Sanborn Fire Insurance Map, the fire

pond has a capacity of six million (6,000,000) gallons (Ref. 15). A drop inlet trickle drainpipe located within the fire pond facilitates maintenance of desired freeboard during times of normal rainfall (Ref. 5). The drainpipe, adjacent to the southwest corner of the fire pond, conveys excess surface water to an outfall pipe that discharges to Lee Branch near Fourth Avenue (see Appendix A, Attachment A: Photo 4 of 8). The fire pond is depicted in Figures 2 & 3.

During the July 2007 site reconnaissance, site representatives provided the following information related to the fire pond (Ref. 5):

- Referred to as a "Fire Pond," the pond provides water for fire protection;
- Surface water run-off is the source of the fire pond;
- Wastewaters generated on-site are not currently discharged to the fire pond;
- On average, overflow of the fire pond occurs every two (2) to three (3) years;
- The most recent pond overflow occurred approximately one and one half (1½) years ago;
- The fire pond has not been known to dry up; and
- Turtles and snakes (possibly water moccasins) currently inhabit the fire pond.

Based upon site topography, the fire pond was likely constructed as an embankment pond (Refs. 5 & 6). Common in areas of moderate to steep sloping terrain, embankment ponds collect and hold surface water run-off via construction of a dam between two (2) hillsides (Ref. 16). Unless significant silting has occurred, it is expected that the depth of the surface impoundment would generally increase from a north to south direction.

The PA report referred to the fire pond as a surface impoundment (Ref. 70). However, Section 4.1 of the *Hazard Ranking System Guidance Manual* (Characterization of Sources and Areas of Observed Contamination) defines surface impoundment as follows (Ref. 2):

"...a topographic depression, excavation, or diked area, primarily formed from earthen materials (lined or unlined) and designed to hold accumulated liquid waste, wastes containing free liquids, or sludges that were not backfilled or otherwise covered during periods of deposition..."

Accordingly, for the purposes of this SI, the fire pond is not considered a surface impoundment due to the fact that no evidence is currently available indicating that the fire pond was designed to hold any waste.

All site-generated run-off eventually enters Lee Branch (Refs. 5 & 6). Most site run-off, including overflows from the fire pond, exits the site at the site's southwest corner via Lee Branch (see Appendix A, Attachment A: Photo 4 of 8). However, some site run-off is conveyed from the site's southeast corner (via underground storm water line) to an outfall that discharges to Lee Branch approximately one hundred (100) feet downstream of Fourth Avenue (Refs. 5 & 17).

An average of 156,000 gallons of wastewater is discharged daily to the city sewer system (Ref. 17). Prior to sewer discharge, wastewater generated from on-site operations is pH adjusted (if necessary) within a 16,807 gallon concrete neutralization basin (Refs. 5 & 18), (see Appendix A, Attachment A: Photo 5 of 8). Used in the neutralization process, two (2) 250 gallon reagent tanks [one (1) containing caustic soda, one (1) containing acetic acid] are located immediately adjacent to the neutralization basin. Continuous pH monitoring occurs within the neutralization basin (Ref. 5). Due to the presence of acids in yarns, it is currently more common to increase the pH of wastewater by the addition of caustic soda than it is to lower the pH by the addition of acetic acid. Point source wastewater pre-treatment occurs at machines that generate wastewater prior to conveyance to the neutralization basin.

Two (2) 12,000 gallon metal aboveground storage tanks are located in the general vicinity of the above described neutralization basin (Refs. 5 & 18), (see Appendix A, Attachment A: Photo 6 of 8). The tanks are used to contain wastewater generated from on-site processes prior to pH adjustment within the neutralization basin (Ref. 5). Wastewater within the tanks can contain Zinc, Formaldehyde, Ammonia and Latex Waste, and under certain circumstances it is necessary to containerize the wastewater in drums for off-site disposal rather than discharge to the city sewer system.

Four (4) 10,000 gallon metal aboveground storage tanks comprising a tank farm are located near the site's northeast corner (Refs. 5 & 18), (see Appendix A, Attachment A: Photo 7 of 8). At the time of the July 2007 site reconnaissance, a site representative indicated that Toluene was stored in one (1) tank with the remaining three (3) tanks being empty (Ref. 5).

Toluene is used to dissolve silicone in the manufacture of automobile air safety bags (Ref. 5). At the time of the July 2007 site reconnaissance, the smell of organic vapor was evident in a room where a toluene/silicone mixture is coated onto fabric. A site representative stated that due to the lowering of the Permissible Exposure Level (PEL) for toluene, modifications were recently made to reduce the amount of toluene vapors available for human exposure inside the room. At the time of the reconnaissance, one (1) individual was observed working in the room. An air permit is associated with a thermal oxidation process that is designed to limit the amount of organic vapors discharged to the atmosphere.

At the time of the July 2007 site reconnaissance, two (2) covered roll-off boxes were observed on the east side of the site near Lincoln Street (Ref. 5). According to a site representative, the plant roof was being re-decked and the roll-off boxes contained wood debris that was possibly painted with lead-based paint. As a conservative measure, the roll-off boxes were lined, covered and labeled as "Hazardous Waste" until analytical results became available that indicated otherwise. At the time of the July 2007 site reconnaissance, the combined volume of the two (2) roll-off boxes was estimated to be approximately eighty (80) square yards. At that same time/location, the smell of organic vapor was evident in the area, similar to the odor previously described in the room where a toluene/silicone mixture was coated onto fabric (Ref. 5). At the time of the February 2010 site reconnaissance, the roll-off boxes were no longer observed on-site (Ref. 71).

At the time of the July 2007 site reconnaissance, a walk around most of the site perimeter did not reveal any areas of stained soil or stressed vegetation (Ref. 5). A six (6) to eight (8) foot chain-

link fence restricts physical access to most areas of the site (other than parking lots), however, on-site portions of Lee Branch have unlimited access.

South of Fourth Avenue (i.e. south side), a brick building was observed at the time of the July 2007 site reconnaissance that looked similar in age to some of the older on-site buildings (Ref. 5). A site representative stated that the building was currently owned by Milliken & Company and was currently vacant, however, a company laboratory had previously operated at that location until a few years ago.

Although not observed during the July 2007 site reconnaissance, information obtained from a site representative confirmed the on-site presence of one (1) two hundred thousand (200,000) gallon above ground storage tank (currently not in use) and one (1) one hundred thousand (100,000) gallon above ground storage tank containing Number Six (6) Fuel Oil (Ref. 18).

A defunct water treatment plant is located south of Fourth Avenue (Ref. 71). According to a site representative, the plant formerly drew raw water from the Chattahoochee River and treated it sufficiently for process water that was used for on-site manufacturing processes. At the time of the February 2010 site reconnaissance and the April 2010 sampling event (Phase II of II), numerous paint chips were observed on the floor of a multi-story brick building associated with the defunct water treatment plant (Refs. 71, 72 & 73), (see Appendix D, Attachment D: Photos 1 & 2 of 53). Although the PA report did not incorporate this area as part of the site, for the purposes of this SI, the defunct water treatment plant, and its associated approximate six (6) acres of land, is considered part of the site (Refs. 70 & 71).

At the time of the February 2010 site reconnaissance, the following tanks were observed in association with the defunct water treatment plant (volumes are estimates), (Refs. 71 & 85):

- One (1) 67,000 gallon round concrete aboveground tank of (contents unknown);
- One (1) 128,000 gallon round metal aboveground tank (contents unknown); and
- One (1) 500,000 gallon rectangular concrete basin (contents unknown).

Figure 2 depicts the neutralization basin, acetic acid tank, caustic soda tank, two (2) zinc wastewater tanks, four (4) toluene tanks, unused tank, fuel oil tank and tanks associated with the defunct water treatment plant.

The site is organizationally subdivided into the Hillside Plant, the Valway Plant and the Hillside Coating Plant (a further subdivision of the Valway Plant), (Ref. 5). In sum, the three (3) contiguous plants comprise the site. Plant specific operations are described as follows:

- Hillside Plant

At the time of the July 2007 site reconnaissance, operations at the Hillside Plant focused on the manufacture of carpet (Ref. 5). Bales of nylon fibers were received which may be dyed with acid dyes in one (1) of two (2) continuous dye ranges (Ref. 19). The fiber was then spun into yarn and subsequently heated to add "memory" in a process known as heat setting. Finally, the

yarn was tufted to a substrate before being transported to another facility for further processing. At the time of the February 2010 site reconnaissance, a site representative indicated that operations at the Hillside Plant had ceased (Ref. 71).

- Valway Plant

The main products manufactured at the Valway Plant include industrial textiles, abrasives, lawn mower grass bags, tire ingredients and automobile safety bags (Ref. 5). Broad woven fabrics are finished on six (6) finishing ranges that may include one or more chemical application pads, scouring boxes and ovens in addition to textile handling and auxiliary equipment (Ref. 20). The chemical application process consists of dip pans and/or coaters. The scouring boxes consist of equipment design to clean or scour textiles with water or an aqueous based solution. Ovens are used for drying and/or heat setting.

- Hillside Coating Plant

At the Hillside Coating Plant, a polymeric coating is compounded and pelletized before being dissolved in solvent (Ref. 21). Curing agents are then added before the polymeric/solvent mixture is applied to fabric in a coating range. After the coating process, powder is applied to keep the fabric from sticking together before final curing in a curing range.

The site is the permittee of five (5) environmental permits as follows:

- Wastewater Discharge Permit No. 101 (Applies to Entire Site)

Issued by the City of LaGrange (in accordance with the provisions of the City of LaGrange Sewer Use Ordinance), this permit authorizes the site to discharge industrial wastewater to the city sewer system (Ref. 22). The discharge permit regulates biochemical oxygen demand, total zinc, total silver, total phenols, total suspended solids, color, oil and grease, total copper, flow and pH in wastewaters discharged to the sewer system.

- Storm Water Discharge General Permit No. GAR000000 (Applies to Entire State of Georgia)

Issued by the Watershed Protection Branch of the GA EPD (in accordance with the provisions of the Georgia Water Quality Control Act and the Georgia Rules for Water Quality Control), this permit authorizes the site to discharge storm water associated with on-site industrial activity to waters of the State of Georgia under the National Pollution Discharge Elimination System (Ref. 23). The site is one (1) of over two thousand (2,000) industrial facilities that are authorized to discharge storm water under this single general permit (Ref. 24).

- Air Permit No. 2281-285-0040-V-02-0 (Applies to Hillside Plant)

Issued by the Air Branch of the GA EPD (in accordance with the provisions of the Georgia Air Quality Act and the Georgia Rules for Air Quality Control), this permit authorizes the Hillside Plant to operate a facility that manufactures yarn, tufted carpet and non-woven material (Ref. 19).

- Air Permit No. 2262-285-0045-V-01-0 (Applies to Valway Plant)

Issued by the Air Branch of the GA EPD (in accordance with the provisions of the Georgia Air Quality Act and the Georgia Rules for Air Quality Control), this permit authorizes the Valway Plant to operate a facility that prepares and finishes fabrics on textile ranges (Ref. 20).

- Air Permit No. 3069-285-0082-V-01-0 (Applies to Hillside Coating Plant)

Issued by the Air Branch of the GA EPD (in accordance with the provisions of the Georgia Air Quality Act and the Georgia Rules for Air Quality Control), permit authorizes the Hillside Coating Plant to operate a fabric coating facility (Ref. 21).

2.3 Operational History and Waste Characteristics

2.3.1 Operational History

Built in 1915 by textile magnate Fuller E. Callaway (1870 – 1928), the site was the seventh (7th) textile mill built in LaGrange, Georgia (Ref. 25). Three (3) color lithographic postcards dating from 1910 depict different views of the “Hillside Cotton Mills,” one (1) of which refers to the surrounding residential area as a “Village” (Ref. 26). The postcards are included as Appendix M of the PA Report. It is unclear whether the lithographic images were derived from photographs, therefore, the postcards may pre-date actual site construction or are improperly dated. Regardless, textile manufacturing has occurred on-site for a time period exceeding ninety (90) years, the majority of which pre-dated the promulgation of any environmental regulation (Refs. 25 & 26).

Depicted on a 1921 Sanborn Fire Insurance Map, the following physical descriptions of the site are considered representative of that earlier time period (Ref. 15):

- Residences of The Hillside Community surrounded the site (as currently);
- The site was bounded by Brownwood Avenue, Lincoln Street, Fourth Avenue and the backyards of private residences located on Grant, Palm and Stonewall Streets (as currently except for the recent demolition of some of the houses on Palm Street);
- Most of the current site development existed;
- The fire pond existed;
- The fire pond was labeled as a “Reservoir” of 6,000,000 gallon capacity; and
- A structure located just north of the fire pond was labeled “Dye House.”

At the time of the July 2007 site reconnaissance, it was determined that the Dye House depicted in the 1921 Sanborn Map no longer existed (Ref. 5). Asphalt, concrete and part of another building now cover the approximate area where the Dye House was located. A site representative stated that dying more recently occurred within the general vicinity of the former Dye House, however, it

occurred at least twelve (12) years ago, within dying kettles, in a different building that was demolished sometime around the year 2000.

A photographic image taken in 1933 depicts a topographic depression in the area where the on-site fire pond is located (Ref. 27). The image is included as Appendix N of the PA Report. At that time, the fire pond may have been temporarily drained. Unauthenticated information obtained from a former site employee suggests that the fire pond has been drained in the past, and that during one such drainage event (unknown date), rusted drums and other debris were discovered at the bottom of the pond (Ref. 28).

In and around 1956/1957, a current and past nearby resident recalled that the normally clear running Lee Branch that exits the site under Fourth Avenue frequently became murky and exhibited a strong chemical smell (Ref. 29).

Milliken & Company purchased the site from Callaway Mills in 1968 (Ref. 25).

On April 18, 2002, the site reported to the GA EPD an un-permitted discharge of an estimated sixty (60) gallons of wastewater containing a non-hazardous textile-finishing chemical described as an "acrylic emulsion containing carbon black" (Ref. 30). Due to a breach in a clay pipe underlying the Valway Plant, wastewater normally conveyed to the municipal sewer system was diverted to a nearby underground storm water line that led to an outfall on Lee Branch approximately one hundred (100) feet downstream from Fourth Avenue (Ref. 17). The result was a discoloration of Lee Branch, for approximately one (1) mile downstream of the site, to a point at or near Blue John Creek (Ref. 30). Based upon information obtained from the site, the following four (4) products (*trade name in italics*) were released to Lee Branch during the April 18, 2002 un-permitted discharge (Ref. 17):

- *Millitex Black GBB* – a pigment dispersion product containing Diethylene Glycol, Isopropanol, Ammonium Hydroxide and Carbon Black;
- *Sandolube NVS Liquid* – an aqueous paraffin emulsion product containing Paraffin Wax, Ethoxylated C12-20 Alcohols and Alpha-Octadecyl-Omega-Hydroxy-Poly(Oxy-1,2-Ethanedyl); ethoxylated compound;
- *Triton GR-5M Surfactant* – a surfactant product containing 1,4-Bis(2-Ethylhexyl) Sodium, Sulfosuccinate and Isopropanol; and
- *WRL E1137* – an aqueous polymer dispersion product containing Polymer/Solids and Formaldehyde.

Material Safety Data Sheets for the above referenced four (4) products are included in Appendix F of the PA Report.

In accordance with the Georgia Rules for Hazardous Waste Management, results of three (3) recent Compliance Evaluation Inspections (CEIs) conducted at the site by the GA EPD Hazardous Waste Management Branch are as follows:

- October 22, 1998 CEI – No violations of the Rules were determined (Ref. 31).
- October 9, 2003 CEI – No violations of the Rules were determined (Ref. 31).
- March 15, 2006 CEI – The following four (4) violations of the Rules were determined (Refs. 31 – 33):
 1. Section 391-3-11-.08(1) of the Rules [equivalent to 40 CFR 262.11] for failure to conduct a hazardous waste determination on broken mercury-containing lamps.
 2. Section 391-3-11-.10(1) of the Rules [equivalent to 40 CFR 265.52(d)] for failure to list the home addresses of emergency coordinators.
 3. Section 391-3-11-.18 of the Rules [equivalent to 40 CFR 273.13(d)(1)] for failure to keep closed two (2) boxes of used mercury-containing lamps when not in use.
 4. Section 391-3-11-.18 of the Rules [equivalent to 40 CFR 273.14(e)] for failure to label one (1) box of used mercury-containing lamps as “Used Lamps.”

The GA EPD formally notified the site in writing of the above referenced violations in a Notice of Violation (NOV) dated May 25, 2006 (Ref. 33). In correspondence dated June 21, 2006, the site responded to the NOV by describing the manner in which the violations had been corrected (Ref. 34). In correspondence dated July 12, 2006, the GA EPD formally acknowledged that the site had adequately addressed the violations (Ref. 35). The associated Generator Inspection Report, NOV, Response to NOV and Compliance Status Letter are included as Appendices S thru V of the PA Report.

On December 31, 2007, the GA EPD completed a Preliminary Assessment (PA) Report for the site (Ref. 70). The PA report recommended further evaluation of the site under the Hazard Ranking System (HRS).

On March 4, 2010, the GA EPD completed a Site Inspection (SI) Sampling and Analysis Plan (SAP) for the site (Ref. 72). A copy of the SAP is included as Appendix C.

2.3.2 Waste Characteristics

Contaminants of concern historically associated with the textile industry include spent solvents, spent surfactants, polychlorinated biphenyls (PCBs) from transformers and other machinery, asbestos from spinning machines or historic structures, bleaching products, phosphates from detergents, insecticides, phenols (manmade substances used to make synthetics such as nylon), underground storage tank contents, waste oil, other petroleum products and heavy metals (Ref. 36). In addition to being found inherently in natural fibers such as cotton, heavy metals have been historically used in textile mills as oxidizers for vat and sulfur dyes, after treatment of direct dyes, metal catalyst for curing resins, finishes, dye stripping agents and various classes of dyes (Ref. 37). Arsenic, Cadmium, Chromium, Copper, Lead, Mercury and Zinc are all found in six (6) common dye classes that include: acid, basic, direct, disperse, fiber reactive and vat dyes.

The textile industry consumes large amounts of water and generates large quantities of wastewater (Ref. 38). Wastewater from printing and dyeing operations, often rich in color due to dye residues and other chemicals, requires proper treatment before release to the environment. It is widely accepted that untreated wastewater generated by the textile industry can be toxic to both human health and the environment (Refs. 38 & 39).

Each of the three (3) contiguous plants comprising the site has notified as a generator of Resource Conservation and Recovery Act (RCRA) hazardous waste as follows:

- Hillside Plant

Assigned EPA Identification Number GAD 080 090 889, the Hillside Plant notified as a Small Quantity Generator (SQG) of hazardous waste (Ref. 40). A SQG generates from two hundred twenty (220) pounds to two thousand two hundred (2,200) pounds of hazardous waste per calendar month (Ref. 41).

- Valway Plant

Assigned EPA Identification Number GAD 000 821 835, the Valway Plant notified as a Small Quantity Generator (SQG) of hazardous waste (Ref. 40). Types of hazardous waste generated at the Valway Plant include (or have included) EPA Waste Codes D001, F003, F005, U007, U188 and U220. Hazardous substances associated with these waste codes include (but are not limited to) Acrylamide, Methyl Ethyl Ketone, Phenol and Toluene (Ref. 41).

- Hillside Coating Plant

Assigned EPA Identification Number GAD 981 275 993, the Hillside Coating Plant notified as a Large Quantity Generator (LQG) of hazardous waste (Ref. 40). A LQG generates more than two thousand two hundred (2,200) pounds of hazardous waste per calendar month (Ref. 41). Types of hazardous waste generated at the Hillside Coating Plant include (or have included) EPA Waste Codes D001, D008, D009, D035, F003, F005, U057, U116, U154, U220 and U239 (Ref. 40). Hazardous substances associated with these waste codes include (but are not limited to) Cyclohexanone, Ethylene Thiourea, Lead, Mercury, Methanol, Methyl Ethyl Ketone, Toluene and Xylene (Ref. 41).

At the time of the July 2007 site reconnaissance, a site representative estimated that thirty (30) to forty (40) fifty-five (55) gallon drums (or 10,000 to 20,000 pounds) of hazardous waste containing Toluene and Methyl Ethyl Ketone were shipped off-site per calendar month (Ref. 5). Additionally, fifty (50) to one hundred (100) fifty-five (55) gallon drums (or 40,000+ pounds) of non-hazardous waste were shipped off-site per calendar month. For the purposes of this PA, an average of thirty-five (35) drums of hazardous waste and seventy-five (75) drums of non-hazardous waste are shipped off-site per calendar month.

In calendar year 2005, the Hillside Coating Plant reported that it generated one hundred seventy-three thousand three hundred and ninety-five (173,395) pounds of *RQ Waste Toluene Mixture, 3, UN1294, II* (EPA Waste Codes D001, F003, F005 and U220), all of which was shipped off-site to Clean Harbors Environmental Services located in El Dorado, Arkansas (Refs. 42 & 43).

Also in calendar year 2005, the site reported that a total of fourteen thousand one hundred and ninety-five (14,195) pounds of Toluene emissions were released from the site, four hundred nine (409) pounds from non-point fugitive emissions and thirteen thousand seven hundred eighty-six (13,786) pounds from stack emissions (Ref. 44).

At the time of the July 2007 site reconnaissance, the following wastes were observed at the Valway Plant/Hillside Coating Operations (Ref. 5):

- One (1) 55-gallon drum of latex waste labeled "Non-Hazardous Waste" within an area designated as a Satellite Accumulation Point (SAP). According to a site representative, a total of seven (7) such SAPs were currently in existence.
- One (1) 5-gallon bucket of waste alkaline batteries labeled "Universal Waste."
- Four (4) 55-gallon drums of latex waste labeled "Non-Hazardous Waste" within a designated storage area.
- Ten (10) boxes of waste fluorescent bulbs labeled "Universal Waste" within a designated storage area.
- Five (5) 5-gallon buckets of waste batteries and ballasts labeled "Universal Waste" within a designated storage area.
- One (1) 55-gallon drum of broken tubes labeled "Hazardous Waste" within an area conspicuously designated as a SAP.
- Approximately thirty (30) 55-gallon drums labeled "Hazardous Waste, D001, F003, F005, U220" within a designated storage area.

For the purposes of this SI (based upon file documentation), the following are considered on-site areas where a hazardous substance has been deposited, stored, disposed or placed (including soil or sediment that may have become contaminated as a result of hazardous substance migration), (Refs. 1, 2, 5, and 18):

- One (1) 16,807 gallon concrete neutralization basin;
- One (1) 250 gallon aboveground storage tank containing acetic acid;
- One (1) 250 gallon aboveground storage tank containing caustic soda;
- Two (2) 12,000 gallon aboveground storage tanks containing Zinc wastewater;
- Four (4) 10,000 gallon aboveground storage tanks [one (1) currently containing Toluene];
- Thirty-five (35) 55 gallon metal drums containing liquid hazardous waste (average volume shipped off-site per calendar month); and

- Seventy-five (75) 55 gallon metal drums containing liquid non-hazardous waste (average volume shipped off-site per calendar month).

Figure 2 depicts the locations of the above referenced areas but does not include the locations of the 55 gallon metal drums. The drum locations are not depicted because the specified number of drums represent the average number shipped off-site per calendar month. Further, drums containing waste are distributed within buildings throughout the site and the Global Positioning System (GPS) unit employed during the July 2007 site reconnaissance was not functional inside buildings (Ref. 5).

3.0 WASTE/SOURCE SAMPLING

3.1 Waste/Source Sample Locations

As part of the April 19 and 20, 2010 sampling event (Phase II of II), the GA EPD collected four (4) on-site waste samples, nine (9) on-site surface soil samples (0 – 2 feet below ground surface) and one (1) on-site subsurface soil sample (> 2 feet below ground surface), (Ref. 73). Additionally, one (1) off-site surface soil sample and one (1) off-site subsurface soil sample were collected at Granger Park for background comparison purposes. A trip report documenting the April 19 and 20, 2010 sampling event is included as Appendix D. Brief descriptions of on-site waste, on-site surface soil, on-site subsurface soil and off-site background sample locations are described as follows (see Table 1: Phase II of II Sample Collection), (Refs. 72 & 73):

3.1.1 On-Site Waste Sample Locations

- STA-14-WL (HW10996) – Waste liquid sample collected on-site, from concrete neutralization basin, to determine whether hazardous substances attributable to the site are present at this location (see Appendix D, Attachment D: Photos 7 & 8 of 53);
- STA-15-WL (HW10997) – Waste liquid sample collected on-site, from twelve thousand (12,000) gallon above ground tank, to determine whether hazardous substances attributable to the site are present at this location (see Appendix D, Attachment D: Photos 5 & 6 of 53);
- STA-16-WS (HW10998) – Waste solid sample (paint chips) collected on-site, from within multistory vacant brick building (old water treatment plant), to determine whether hazardous substances attributable to the site are present at this location (see Appendix D, Attachment D: Photos 1 & 2 of 53); and
- STA-28-WL (HW11014) – Waste liquid sample collected on-site, from sump near Forth Avenue, to determine whether hazardous substances attributable to the site are present at this location (see Appendix D, Attachment D: Photos 3 & 4 of 53).

The approximate locations of on-site sampling stations STA-14, STA-15, STA-16 and STA-28 are depicted in Figure 3.

3.1.2 On-Site Surface Soil Sample Locations

- STA-18-SS (HW11001) – Surface soil sample collected on-site, from northeast corner of site, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 22 – 24 of 53);
- STA-19-SS (HW11002) – Surface soil sample collected on-site, from near eastern boundary of site, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 9 & 10 of 53);
- STA-20-SS (HW11003) – Surface soil sample collected on-site, from southeast corner of site, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 11 & 12 of 53);
- STA-22-SS (HW11005) – Surface soil sample collected on-site, from between fire pond and Lee Branch, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 44 & 48 – 49 of 53);
- STA-24-SS (HW11007) – Surface soil sample collected on-site, from between Lee Branch and residential property, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 45 – 47 of 53);
- STA-24-DUP (HW11008) – Duplicate of STA-24-SS (HW11007);
- STA-26-SS (HW11010) – Surface soil sample collected on-site, from near northeast corner of fire pond, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 25 – 27 of 53);
- STA-27-SS (HW11012) – Surface soil sample collected on-site, from small wooded area immediately east of fire pond, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 40 & 42 – 43 of 53); and
- STA-29-SS (HW11011) – Surface soil sample collected on-site, from near northeast corner of fire pond, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 28 – 30 of 53).

The approximate locations of on-site sampling stations STA-18, STA-19, STA-20, STA-22, STA-24, STA-26, STA-27 and STA-29 are depicted in Figure 3.

3.1.3 On-Site Subsurface Soil Sample Location

- STA-27-SUB (HW11013) – Surface soil sample collected on-site, from same location as STA-27-SS (HW 11012), to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 41 – 43 of 53).

The approximate location of sample station STA-27 is depicted in Figure 3.

3.1.4 Off-Site Surface Soil and Subsurface Soil Sample Background Location

- STA-17-SS (HW10999) – Surface soil sample collected off-site, from Granger Park, to determine whether hazardous substances not attributable to the site are present at this location (see Appendix D, Attachment D: Photos 50 & 52 – 53 of 53);
- STA-17-SUB (HW11000) – Subsurface soil sample collected off-site, from the same location as STA-17-SS (HW10999), to determine whether hazardous substances not attributable to the site are present at this location (see Appendix D, Attachment D: Photos 51 – 53 of 53); and

The approximate location of sample station STA-17 is depicted in Figure 4.

3.2 Waste/Source Analytical Results

The GA EPD Laboratory analyzed waste samples, surface soil samples (0 – 2 feet below ground surface) and subsurface samples (> 2 feet below ground surface) collected during the April 19 and 20, 2010 sampling event (Phase II of II), (Refs. 72, 73 & 74). Waste liquid analyses included Volatile Organics, Semi-Volatile Organics, Target Analyte List (TAL) Metals and Mercury. Solid waste analyses included TAL Metals and Mercury. Surface soil and subsurface soil analyses included Volatile Organics, Semi-Volatile Organics, Cyanide, Target TAL Metals, Mercury, Pesticides and Polychlorinated Biphenyls. Laboratory Reports, QA/QC Batch Reports, Request for Laboratory Analysis Sheets and Chain of Custody Records for the April 19 and 20, 2010 sampling event (Phase II of II) are included as Appendix E.

3.2.1 On-Site Waste Analytical Results

The following hazardous substances were detected in waste collected on-site in at least one (1) of four (4) locations (highest concentration detected parenthesis), (Refs. 73 & 74):

Volatile Organics: p-Isopropyltoluene (210 mg/l) and Styrene (160 mg/l).

Semi Volatiles: Benzoic Acid (0.29 mg/l), Bis(2-Ethylhexyl)phthalate (0.11 mg/l) and Phenol (64 mg/l).

Metals: Aluminum (1900 mg/kg), Antimony (0.18 mg/l), Arsenic (0.011 mg/l), Barium (3200 mg/kg), Beryllium (23000 mg/kg), Cadmium (9.3 mg/kg), Calcium (23000 mg/kg), Chromium (180 mg/kg), Cobalt (160 mg/kg), Copper (19 mg/kg), Iron (2200 mg/kg), Lead (3300 mg/kg), Manganese (66 mg/kg), Magnesium (1100 mg/kg), Mercury (0.0045), Nickel (4.3 mg/kg), Potassium (1100 mg/kg), Selenium (0.052 mg/l), Sodium (780 mg/kg), Vanadium (19 mg/kg) and Zinc (51000 mg/kg).

Analytical results of waste samples collected on-site are summarized in Table 2.

3.2.2 On-Site Surface Soil Analytical Results

The following hazardous substances were detected in surface soil (0 – 2 feet below ground surface) collected on-site in at least one (1) of nine (9) locations (highest concentration detected in parenthesis), (Refs. 73 & 74):

Volatile Organics: Acetone (0.22 mg/kg).

Semi Volatiles: Benzo[a]anthracene (1.5 mg/kg), Benzo[a]pyrene (1.2 mg/kg), Benzo[b]fluoranthene (1.5 mg/kg), Bis(2-Ethylhexyl)phthalate (2.9 mg/kg), Chrysene (1.6 mg/kg), Fluoranthene (3.7 mg/kg), Phenanthrene (2.4 mg/kg) and Pyrene (2.7 mg/kg).

Metals: Aluminum (2400 mg/kg), Arsenic (24 mg/kg), Barium (410 mg/kg), Beryllium (0.97 mg/kg), Cadmium (0.53 mg/kg), Calcium (14000 mg/kg), Chromium (150 mg/kg), Cobalt (21 mg/kg), Copper (56 mg/kg), Iron (59000 mg/kg), Lead (110 mg/kg), Manganese (6900 mg/kg), Magnesium (1900 mg/kg), Nickel (47 mg/kg), Potassium (4500 mg/kg), Vanadium (180 mg/kg) and Zinc (350 mg/kg).

Pesticides: 4,4-DDE (0.013 mg/kg), 4,4-DDT (0.35 mg/kg), Aldrin (0.11 mg/kg) and Dieldrin (0.087 mg/kg).

The following hazardous substances were detected in surface soil collected on-site at concentrations significantly above background (indicates an analyte whose concentration exceeds three (3) times background concentration or exceeds the reporting limit of the background when not detected in background), (Refs. 1, 73 & 74): Acetone at seven (7) locations, Benzo[a]anthracene at one (1) location, Benzo[a]pyrene at one (1) location, Benzo[b]fluoranthene at one (1) location, Bis(2-Ethylhexyl)phthalate at one (1) location, Chrysene at one (1) location, Fluoranthene at two (2) locations, Phenanthrene at one (1) location, Pyrene at two (2) locations, Arsenic at three (3) locations, Barium at two (2) locations, Calcium at five (5) locations, Chromium at one (1) location, Copper at one (1) location, Lead at three (3) locations, Magnesium at one (1) location, Manganese at two (2) locations, Nickel at one (1) location, Potassium at one (1) location, Zinc at four (4) locations, 4,4-DDT at two (2) locations, Aldrin at one (1) location and Dieldrin at two (2) locations.

The following hazardous substances were detected in surface soil collected on-site at concentrations that exceeded the U.S. EPA Soil Screening Values (Residential and/or Industrial), (Refs. 73, 74 & 75): Benzo[a]anthracene at one (1) location, Benzo[b]pyrene at one (1) location, Benzo[b]fluoranthene at one (1) location, Arsenic at three (3) locations, Manganese at one (1) location, Aldrin at one (1) location and Dieldrin at one (1) location.

Analytical results of surface soil samples collected on-site are summarized in Table 3.

3.2.3 On-Site Subsurface Soil Analytical Results

The following hazardous substances were detected in subsurface soil (> 2 feet below ground surface) collected on-site in one (1) of one (1) location (Refs. 73 & 74):

Metals: Aluminum (38000 mg/kg), Barium (220 mg/kg), Chromium (130 mg/kg), Iron (88000 mg/kg), Manganese (490 mg/kg), Vanadium (260 mg/kg), and Zinc (75 mg/kg).

Pesticides: 4,4-DDE (0.0093 mg/kg) and Dieldrin (0.008 mg/kg).

The following hazardous substances were detected in subsurface soil collected on-site at concentrations significantly above background (Refs. 1, 73 & 74): Barium at one (1) location, Zinc at one (1) location, 4,4-DDE at one (1) location and Dieldrin at one (1) location.

No hazardous substances were detected in subsurface soil collected on-site at concentrations that exceeded the U.S. EPA Soil Screening Values (Residential and/or Industrial), (Refs 73, 74 & 75).

Analytical results of the subsurface soil sample collected on-site are summarized in Table 4.

3.3 Waste/Source Conclusions

For the purposes of this SI (based upon chemical analysis), the following are considered on-site areas where a hazardous substance has been deposited, stored, disposed or placed (including soil or sediment that may have become contaminated as a result of hazardous substance migration), (Refs. 1, 2, 13, 14, 18, 73 & 74):

- Waste liquid contained by one (1) 16,807 gallon concrete neutralization basin;
- Waste liquid contained by one (1) 12,000 gallon aboveground tank;
- Waste solid (paint chips) located within the multistory vacant brick building associated with the defunct water treatment plant (unknown volume);
- Waste liquid contained by a sump located near Fourth Avenue (unknown volume);
- Approximately five (5) acres of area not covered by buildings, paving, the on-site fire pond, or other impenetrable surfaces where hazardous substances were detected in surface soil (0 – 2 feet below ground surface) at concentrations significantly above background; and
- A small wood area located immediately east of the fire pond where hazardous substances were detected in subsurface soil (> 2 feet below ground surface) at concentrations significantly above background.

4.0 GROUNDWATER MIGRATION PATHWAY

4.1 Hydrogeology

The site is located in the southern section of the Piedmont Physiographic Province, within an area designated as the Greenville Slope District (Ref. 45). Topography in the southern section of the Piedmont is characterized by broad rolling upland or plateau as opposed to the low rolling hills

found in the northern section (Ref. 46). The study area is characterized by gently rolling topography dissected by numerous surface water streams, most of which exhibit a dendrite drainage pattern similar to the branching of trees (Refs. 5, 6, 45, 47 & 48).

The Piedmont Physiographic Province is characterized by bedrock overlain with a regolith of varying thickness (Ref. 47). The bedrock of the Piedmont consists of complex sequences of igneous rocks (of Precambrian to Paleozoic age) and metamorphic rocks (of late Precambrian to Permian age), collectively known as crystalline rocks (Refs. 47 & 49). Located above the bedrock, the regolith of the Piedmont consists of semi-consolidated to unconsolidated weathered rock (i.e., saprolite), soil and other surficial deposits (Ref. 47). Depending upon the specific parent rock, the regolith ranges in thickness from a few feet to more than one hundred fifty (150) feet. In some areas, a transition zone occurs between the bedrock and regolith.

Water-bearing units of the Piedmont Physiographic Province include the surficial regolith unit and the deeper bedrock unit (Ref. 47). The regolith unit may consist of soil, alluvium, colluvium and saprolite. Porosity ranging from twenty (20) to thirty (30) percent is typical in the regolith unit (Ref. 50). The deeper bedrock unit may consist of quartzite, slate, gneiss, schist, marble, phyllite, granite and amphibolite (Ref. 47). The bedrock unit is poorly permeable, with little if any primary porosity [i.e., less than two (2) percent]. Water-bearing zones within the bedrock unit occur along geologic features that produce openings such as lithologic contacts, foliation, joints, fractures, faults, folds, quartz veins and pegmatites. The bedrock unit is unconfined and recharged from groundwater stored in the overlying regolith unit (Ref. 51). For the purposes of this PA, all water-bearing units underlying the site and the study area are considered a single interconnected aquifer.

Domestic water supply is the largest use category of groundwater in the Middle Chattahoochee River basin in Georgia (Ref. 47). Other groundwater uses in this area include public water supply, agricultural and self-supplied industrial and/or commercial. Groundwater is obtained from either shallow, bored wells that are completed in the regolith or deeper, drilled wells that are completed in the bedrock. Wells completed in the shallower regolith are more susceptible to contamination and to water table decline during times of drought. The potential currently exists, especially under current drought conditions, for further development of groundwater resources within the study area.

4.2 Groundwater Migration Targets

The site-specific groundwater Target Distance Limit (TDL) is limited to that area located within four (4) miles of the designated site reference point (Refs. 3 & 4). Only those groundwater targets located within the groundwater TDL are considered for the purposes of this PA. The site reference point and the groundwater TDL are depicted in Figure 5.

4.2.1 Target Population, Nearest Well and Wellhead Protection Area

There are no known municipal wells located within the groundwater TDL (Refs. 5 & 52). Further, no wells associated with other permitted drinking water systems are known to occur within the groundwater TDL (e.g., trailer park system, state park, etc.). Accordingly, there are no designated Wellhead Protection Areas located within the groundwater TDL. The City of LaGrange, Georgia obtains its municipal water supply from surface water bodies (Refs. 53 & 54). The city drinking water system is further discussed in Section 5.2.1 of this report (Drinking Water Threat).

Based upon information obtained from the 1990 Census of Population and Housing, one thousand five hundred and four (1,504) individuals obtain drinking water from domestic wells located within the groundwater TDL (Ref. 55). Domestic well information was not collected as part of the 2000 Census (Ref. 56). The 1990 Census further indicates that four (4) domestic wells are located between one quarter ($\frac{1}{4}$) and one half ($\frac{1}{2}$) mile of the site reference point (Ref. 55).

On September 1, 2010, the GA EPD conducted a well survey to determine whether any individuals obtain drinking water from domestic wells located within one half ($\frac{1}{2}$) mile of the site reference point (Ref. 76). At the time of the September 2010 well survey, no evidence was obtained suggesting that any individuals obtain drinking water from domestic wells located within one half ($\frac{1}{2}$) mile of the site reference point. Accordingly, for the purposes of this SI, no domestic wells utilized for drinking water purposes are considered to be located within one half ($\frac{1}{2}$) mile of the site reference point (despite 1990 census data indicating otherwise), (Refs. 55 & 76).

The number of domestic wells and population on domestic wells (per concentric distance category) are set forth in Table 5.

4.2.2 Resources

For the purposes of this SI, the beneficial use of groundwater for purposes other than drinking water (e.g., irrigation of commercial food crops, watering of commercial livestock, as an ingredient in commercial food preparation or as a water supply for commercial aquaculture) was not positively confirmed to currently occur within the groundwater TDL.

4.3 Groundwater Sample Locations

There are no known municipal wells located within the groundwater TDL (Refs. 5 & 52). Further, for the purposes of this SI, no domestic wells utilized for drinking water purposes are considered to be located within one half ($\frac{1}{2}$) mile of the site reference point (Refs. 55 & 76). Accordingly, groundwater sample locations were not proposed as part of this SI (Ref. 72).

4.4 Groundwater Analytical Results

Groundwater analytical results are not included as part of this SI.

4.5 Groundwater Conclusions

In conclusion, the Groundwater Pathway by itself does not warrant further evaluation under the HRS.

5.0 SURFACE WATER MIGRATION PATHWAY

5.1 Hydrology

Located within the Chattahoochee River Basin, the Troup County area received approximately fifty-two (52) inches of average annual rainfall for the time period extending from 1941 thru 1970 (Ref.

7). Pursuant to Section 4.0.2 of the HRS, intermittently flowing waters are not considered surface water bodies in areas that receive twenty (20) or more inches of mean annual precipitation (Ref. 1).

The site-specific hydrologic setting is sub-divided into the Overland Run-Off Route (Overland Segment) and the Surface Water Target Distance Limit (In-Water Segment) as follows:

5.1.1 Overland Run-Off Route

The Overland Run-Off Route (OROR) is the migration route that run-off would follow from a particular on-site source to a perennial surface water body (Refs. 1 & 2). Further, any point at which site run-off enters a perennial surface water body is considered a Probable Point of Entry (PPE).

The site-specific OROR encompasses sections of three (3) intermittent streams that convey site run-off to the perennial Blue John Creek (Refs. 5, 6, 11, 47 & 58). The streams are identified on a 1982 Flood Insurance Rate Map as Lee Branch, Park Branch and Atlanta Branch (Ref. 11). The OROR route is further described as follows (Refs. 5, 6, 11 & 17):

- All site run-off eventually enters Lee Branch;
- The furthest downstream point at which site run-off enters Lee Branch is located approximately one hundred (100) feet south or downstream of Fourth Avenue (near the site's southwest corner) at a storm water outfall;
- From the southwest corner of the site, Lee Branch flows generally southeast for approximately one-half (½) mile before converging with Park Branch;
- From the point of confluence of Lee Branch and Park Branch, Park Branch flows generally south for approximately five hundred (500) feet before converging with Atlanta Branch;
- From the point of confluence of Park Branch and Atlanta Branch, Atlanta Branch flows generally south for approximately one-half (½) mile before converging with the perennial Blue John Creek;
- The Probable Point of Entry (PPE) is located at the confluence of Atlanta Branch (intermittent) and Blue John Creek (perennial); and
- The total length of the OROR is approximately one (1) mile.

Despite the perennial designations set forth in the USGS Topographic Map, for the purposes of this PA, flow conditions within the before described OROR are considered intermittent based upon the following information:

- During the July 2007 site reconnaissance (Ref. 5):
 1. The portion of Lee Branch immediately north of the site was limited to intermittent puddles.

2. The on-site portion of Lee Branch exhibited a low flow volume.
 3. A site representative stated that approximately nine (9) years ago, the on-site portion of Lee Branch consisted of just a few intermittent puddles.
 4. A site representative stated that Lee Branch drains approximately 254 acres of land immediately north of the site (i.e., a relatively limited watershed area).
- From its origin north of the site, the USGS Topographic Map designates Lee Branch as an intermittent stream, until approximately twelve hundred (1200) feet upstream of the site, where the USGS designation changes to perennial (Ref. 6).
 - From its origin north of the site, Lee Branch flows approximately one and one-half miles (1½) miles (a relatively short course), before converging with Park Branch (Ref. 6).
 - The Lee Branch watershed is relatively limited in area (Refs. 5 & 6).
 - At any particular time, the flow volume within Lee Branch would not be expected to vary appreciably (due to its short course and relatively limited watershed area), (Refs. 5 & 6).
 - It is not suspected that Lee Branch is fed by a natural spring.
 - Despite the area receiving approximately one (1) inch of rain in late October 2007, there was no visible flow in Lee Branch at the site on or near November 8, 2007 (Ref. 59). Only puddles of water existed with areas between puddles remaining damp. An algae-like growth was observed on the surface of some of the puddles.
 - The physical conditions of Park Branch and Atlanta Branch are considered similar to those described above for Lee Branch (Refs. 6 & 11).

The OROR and PPE are depicted in Figure 6.

5.1.2 Target Distance Limit

The surface water Target Distance Limit (TDL) is the migration route that site generated run-off would follow from the point it enters a perennial surface water body [i.e., Probable Point of Entry (PPE)], to a point fifteen (15) miles downstream (Refs. 1 & 2).

The site-specific surface water TDL is completely encompassed by perennial sections of Blue John Creek and Long Cane Creek (Refs. 5, 6, 47, 48 & 58). West Point Lake and the Chattahoochee River are not included (Refs. 5, 6 & 48). The surface water TDL is further described as follows (Refs. 5, 6, 47, 48, 58):

- From the before described PPE (see Section 4.1.1 above), Blue John Creek flows generally southwest for approximately three point two (3.2) miles before converging with Long Cane Creek;

- From the point of confluence of Blue John Creek and Long Cane Creek, Long Cane Creek flows generally southwest for approximately eleven point eight (11.8) miles before the surface water TDL terminates at fifteen (15) miles downstream of the PPE; and
- From the surface water TDL termination point, Long Cane Creek flows generally south for approximately one (1) mile before converging with the Chattahoochee River below West Point Lake.

Based upon drainage area, average annual flow rates within the TDL were estimated by the United States Geological Survey as follows (Ref. 58):

- From the PPE to its confluence with Long Cane Creek, Blue John Creek transitions from a minimal stream [less than ten (< 10) cubic feet per second] to a small to moderate stream [ten (10) to one hundred (100) cubic feet per second]. Average annual flow rates within the Blue John Creek section of the TDL are estimated to range from approximately nine (9) cubic feet per second to approximately twenty-nine (29) cubic feet per second.
- From its confluence with Blue John Creek to the surface water TDL termination point, Long Cane Creek transitions from a small to moderate stream [ten (10) to one hundred (100) cubic feet per second] to a moderate to large stream [greater than one hundred (100) to one thousand (1,000) cubic feet per second]. Average annual flow rates within the Long Cane Creek section of the surface water TDL are estimated to range from approximately seventy-three (73) cubic feet per second to approximately one hundred eight (108) cubic feet per second.

Based upon drainage area, estimated average annual flow rates of Blue John Creek and Long Cane Creek are further set forth in Table 6 (Ref. 58).

Blue John Creek and Long Cane Creek are considered impaired streams because they do not fully support the use of fishing designated by the State of Georgia (Ref. 60). More specifically, Blue John Creek only partially supports fishing due to the presence of fecal coliform bacterial that is potentially caused by urban run-off and/or urban effects. Long Cane Creek does not support fishing due to the presence of fecal coliform bacterial and unspecified impacted biota that is potentially caused by urban run-off and/or urban effects. The "does not support fishing" designation does not imply that fish are not present, or that fish are not taken for human consumption.

The PPE and surface water TDL are depicted in Figures 7 and 8.

5.2 Surface Water Migration Targets

For the purposes of this SI, only surface water targets located within the surface water TDL are considered (Refs. 1 & 2). Surface water targets are sub-divided into the Drinking Water Threat, the Human Food Chain Threat and the Environmental Threat as follows:

5.2.1 Drinking Water Threat

There is no known drinking water intake located within the surface water TDL (Refs. 52 - 54). Permit No 141-1292-01 (Modified), issued by the GA EPD, authorizes the City of LaGrange to withdraw surface water from West Point Lake for the purpose of a municipal water supply (Ref. 53). Permit No. CS2850001, also issued by the GA EPD, authorizes the City of LaGrange to operate a public drinking water system using surface water as the principal source of supply (Ref. 54). Permitted sources of raw water for the municipal drinking water system are West Point Lake and the Chattahoochee River.

For the purposes of this SI, the beneficial use of surface water for purposes other than drinking water (such as irrigation, watering of commercial stock, as an ingredient in commercial food preparation, major or designated water recreation area or as a potential drinking water supply) was not positively confirmed to currently occur within the surface water TDL.

5.2.2 Human Food Chain Threat

Pursuant to Section 391-3-6-.03(14) of the Georgia Rules for Water Quality Control (Specific Water Use Classifications), both Blue John Creek and Long Cane Creek are classified as "Fishing" (Ref. 61). The fishing classification is scientifically determined to be the best utilization of the creeks.

A twenty-seven (27) year employee of the City of LaGrange Office of Water Pollution Control familiar with Long Cane Creek did not believe that the creek currently supported large numbers of fish (Ref. 62). That same employee has never observed anyone fishing on Long Cane Creek. A site representative, who regularly fishes West Point Lake, was not aware of any fishing that occurred within Long Cane Creek (Ref. 5).

For the purposes of this SI, the human consumption of food chain organisms obtained from the surface water TDL was not positively confirmed to currently occur within the surface water TDL.

5.2.3 Environmental Threat

5.2.3.1 Wetlands

Significant qualifying wetland frontage exists within the surface water TDL (Refs. 5, 6 & 63). Three point seven (3.7) frontage miles of combined Palustrine System Emergent, Forested and Scrub-Shrub Wetlands exist within the Blue John Creek section of the TDL. Fifteen point six (15.6) frontage miles of combined Palustrine System Emergent, Forested and Scrub-Shrub Wetlands exist within the Long Cane Creek section of the TDL. Qualifying wetland frontage located within the surface water TDL is depicted in Figure 8.

5.2.3.2 Aquatic Sensitive Environments

The following three (3) protected aquatic sensitive environments have been reported to currently occur in Troup County, Georgia (Ref. 77):

- Bald Eagle (*Haliaeetus leucocephalus*)

Currently designated by the State of Georgia as a threatened bird species, the Bald Eagle is found throughout most of the United States and Canada (Refs. 65, 77 & 78). Bald Eagles are known to utilize fish and waterfowl as food sources (Ref. 65).

- Bluestripe Shiner (*Cyprinella callitaenia*)

Currently designated by the State of Georgia as a rare fish species, the Bluestripe Shiner is endemic to the Apalachicola River drainage basin (which includes the Chattahoochee River basin), (Refs. 65, 66, 77 & 78). The Bluestripe Shiner typically inhabits rivers or large creeks with moderate flow, little or no vegetation and a sandy or rocky substrate (Ref. 66). The Bluestripe Shiner is known to avoid smaller creeks and soft substrates.

- Highscale Shiner (*Notropis hypsilepis*)

Currently designated by the State of Georgia as a rare fish species, the Highscale Shiner (*Notropis hypsilepis*) is distributed near and above the fall line in the Chattahoochee and Flint River systems (Refs. 65, 66, 77 & 78). The Highscale Shiner is known to inhabit small streams [three (3) to six (6) meters wide] and is often found near the mouth of such streams as they enter large rivers, and where substrate is sandy (Ref. 66).

The Georgia Department of Natural Resources (Wildlife Resources Division) has confirmed four (4) specific habitat locations within the Long Cane Creek portion of the TDL where the Highscale Shiner is known to currently exist (Ref. 88). Although it is expected that the Highscale Shiner exists within the Blue John Creek portion of the TDL, the Georgia Department of Natural Resources currently has no record positively confirming its presence in Blue John Creek (Ref. 68). An artistic representation of the Highscale Shiner (by Joseph R. Tomelleri) is included as Figure 9 (Ref. 66).

Protected species reported to occur in Troup County, Georgia are included in Table 7.

None of the above referenced three (3) protected aquatic sensitive environments were observed within the surface water TDL during the February 2010 off-site reconnaissance or the March 2010 Phase I of II sampling event (Refs. 71, 77, 78, 79 & 80). However, for the purposes of this SI, the four (4) habitat locations within the Long Cane Creek portion of the TDL, where the Georgia Department of Natural Resources has confirmed the presence of the Highscale Shiner, are considered "particular areas, relatively small in size, important to the maintenance of a unique biotic community" (see HRS Table 4-23), (Refs. 1, 2, 5, 6, 67 & 68). For the purposes of this SI, the Bald Eagle and the Bluestripe Shiner are not considered to currently occur within the surface water TDL.

5.3 Surface Water/Sediment Sampling Locations

5.3.1 Stream Surface Water/Sediment Sampling Locations

During the March 15, 2010 sampling event (Phase I of II), the GA EPD collected eleven (11) surface water samples (including a duplicate) and eleven (11) co-located sediment samples (including a duplicate), (Ref. 80). A trip report documenting the March 15, 2010 sampling event is included as Appendix G. Brief descriptions of the co-located surface water and sediment sample locations are as follows (see Table 8: Phase I of II Sample Collection), (Refs. 72 & 80):

- STA-01-SW (HW10966) – Surface water sample collected off-site, from Blue John Creek, approximately eight (8) feet upstream of old unused bridge, to determine whether hazardous substances at least partially attributable to the site are present at this location (an aquatic sensitive environment), (see Appendix G, Attachment B: Photos 1 & 2 of 20);
- STA-01-SED (HW10967) – Sediment sample collected off-site, from Blue John Creek, from the same location as STA-01-SW (HW10966), to determine whether hazardous substances at least partially attributable to the site are present at this location (an aquatic sensitive environment), (see Appendix G, Attachment B: Photos 1 & 2 of 20);
- STA-02-SW (HW10968) – Surface water sample collected off-site, from Blue John Creek, approximately five hundred and sixty (560) feet downstream of the Probable Point of Entry (PPE), to determine whether hazardous substances at least partially attributable to the site are present at this location (an aquatic sensitive environment), (see Appendix G, Attachment B: Photos 3 & 4 of 20);
- STA-02-SED (HW10969) – Sediment sample collected off-site, from Blue John Creek, from the same location as STA-02-SW (HW10968), to determine whether a hazardous substances at least partially attributable to the site are present at this location (an aquatic sensitive environment), (see Appendix G, Attachment B: Photos 3 & 4 of 20);
- STA-02-DUP (HW10970) – Surface water duplicate sample of STA-02-SW (HW10968);
- STA-02-DUP (HW10971) – Sediment duplicate sample of STA-02-SED (HW10969);
- STA-03-SW (HW10972) – Surface water sample collected off-site, from Blue John Creek, approximately forty (40) feet upstream of the Probable Point of Entry (PPE), to determine whether hazardous substances not attributable to the site are present at this location (see Appendix G, Attachment B: Photos 5 & 6 of 20);
- STA-03-SED (HW10973) – Sediment sample collected off-site, from Blue John Creek, from the same location as STA-03-SW (HW10972), to determine whether hazardous substances not attributable to the site are present at this location (see Appendix G, Attachment B: Photos 5 & 6 of 20);
- STA-04-SW (HW10974) – Surface water sample collected off-site, from Atlanta Branch, approximately twenty (20) feet upstream of railroad culvert, to determine whether hazardous

substances at least partially attributable to the site are present at this location (see Appendix G, Attachment B: Photos 7 & 8 of 20);

- STA-04-SED (HW10975) – Sediment sample collected off-site, from Atlanta Branch, from the same location as STA-04-SW (HW10974), to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix G, Attachment B: Photos 7 & 8 of 20);
- STA-05-SW (HW10976) – Surface water sample collected off-site, from Troup Branch, approximately six (6) feet upstream of its confluence with Atlanta Branch, to determine whether hazardous substances not attributable to the site are present at this location (see Appendix G, Attachment B: Photos 9 & 10 of 20);
- STA-05-SED (HW10977) – Sediment sample collected off-site, from Troup Branch, from the same location as STA-05-SW (HW10976), to determine whether hazardous substances not attributable to the site are present at this location (see Appendix G, Attachment B: Photos 9 & 10 of 20);
- STA-06-SW (HW10978) – Surface Water sample collected off-site, from Atlanta Branch, approximately thirty (30) feet upstream of its confluence with Lee Branch, to determine whether hazardous substances not attributable to the site are present in at this location (see Appendix G, Attachment B: Photos 11 & 12 of 20);
- STA-06-SED (HW10979) – Sediment sample collected off-site, from Atlanta Branch, from the same location as STA-06-SW (HW10978), to determine whether hazardous substances not attributable to the site are present at this location (see Appendix G, Attachment B: Photos 11 & 12 of 20);
- STA-07-SW (HW10980) – Surface water sample collected off-site, from Park Branch, approximately forty (40) feet upstream of its confluence with Lee Branch, to determine whether hazardous substances not attributable to the site are present at this location (see Appendix G, Attachment B: Photos 13 & 14 of 20);
- STA-07-SED (HW10981) – Sediment sample collected off-site, from Park Branch, from the same location as STA-07-SW (HW10980), to determine whether hazardous substances not attributable to the site are present at this location (see Appendix G, Attachment B: Photos 13 & 14 of 20);
- STA-08-SW (HW10982) – Surface water sample collected off-site, from Lee Branch, approximately eighty (80) feet upstream from four (4) pipe culverts, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix G, Attachment B: Photos 15 & 16 of 20);
- STA-08-SED (HW10983) – Sediment sample collected off-site, from Lee Branch, from the same location as STA-08-SW (HW10982), to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix G, Attachment B: Photos 15 & 16 of 20);

- STA-09-SW (HW10984) – Surface water sample collected on-site, from Lee Branch, approximately twelve (12) feet upstream of the Fourth Street culvert, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix G, Attachment B: Photos 17 & 18 of 20);
- STA-09-SED (HW10985) – Sediment sample collected on-site, from Lee Branch, from the same location as STA-09-SW (HW10984), to determine whether hazardous substances at least partially attributable to the site are present at in Lee Branch at this location (see Appendix G, Attachment B: Photos 17 & 18 of 20);
- STA-10-SW (HW10986) – Surface water sample collected off-site, from Lee Branch, approximately six (6) feet upstream of the Brownwood Avenue culvert, to determine whether hazardous substances not attributable to the site are present at this location (see Appendix G, Attachment B: Photos 19 & 20 of 20); and
- STA-10-SED (HW10987) – Sediment sample collected off-site, from Lee Branch, from the same location as STA-10-SW (HW10986), to determine whether hazardous substances not attributable to the site are present at this location (see Appendix G, Attachment B: Photos 19 & 20 of 20).

The approximate locations of sampling stations STA-01 through STA-10 are depicted in Figure 10.

5.3.2 Pond Surface Water/Sediment Sampling Locations

As part of the April 19 and 20, 2010 sampling event (Phase II of II), the GA EPD collected three (3) surface water samples and three (3) co-located sediment samples (Ref. 73). A trip report documenting the April 19 and 20 sampling event is included as Appendix D. Brief descriptions of the co-located surface water and sediment sample locations are as follows (see Table 1: Phase II of II Sample Collection), (Refs. 72 & 73):

- STA-11-SW (HW10990) – Surface water sample collected on-site, from the eastern side of the fire pond (towards north end) to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 19 – 21 of 53);
- STA-11-SED (HW10991) – Sediment sample collected on-site, from the same location as STA-11-SW (HW10990), to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 19 – 21 of 53);
- STA-12-SW (HW10992) – Surface water sample collected on-site, from the southeast corner of the fire pond, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 16 – 18 of 53);
- STA-12-SED (HW10993) – Sediment sample collected on-site, from the same location as STA-12-SW (HW10992), to determine whether hazardous substances at least partially

attributable to the site are present at this location (see Appendix D, Attachment D: Photos 16 – 18 of 53);

- STA-13-SW (HW10994) – Surface water sample collected off-site, from Granger Park pond, to determine whether hazardous substances not attributable to the site are present at this location (see Appendix D, Attachment D: Photos 13 – 15 of 53); and
- STA-13-SED (HW10995) – Sediment sample collected off-site, from the same location as STA-13-SW (HW10994), to determine whether hazardous substances not attributable to the site are present at this location (see Appendix D, Attachment D: Photos 13 – 15 of 53).

The approximate locations of sample stations STA-11 and STA-12 are depicted in Figure 3. The approximate location of sample station STA-13 is depicted in Figure 4.

5.4 Surface Water/Sediment Analytical Results

The GA EPD Laboratory analyzed surface water and sediment samples collected during the March 15, 2010 sampling event (Phase I of II) and the April 19 and 20, 2010 sampling event (Phase II of II), (Refs. 72, 73, 74, 80 & 81). Analyses included Volatile Organics, Semi-Volatile Organics, Cyanide, Target Analyte List (TAL) Metals, Mercury, Pesticides and Polychlorinated Biphenyls. Laboratory Reports, QA/QC Batch Reports, Request for Laboratory Analysis Sheets and Chain of Custody Records for the March 15, 2010 sampling event (Phase I of II) and the April 19 and 20, 2010 sampling event (Phase II of II) are included as Appendices E and H respectively.

5.4.1 Stream Surface Water Analytical Results (Target Distance Limit)

The following hazardous substances were detected in surface water collected from the Blue John Creek portion of the Target Distance Limit (TDL) in at least one (1) of two (2) locations (highest concentration detected in parenthesis), (Refs. 80 & 81):

Metals - Aluminum (0.79 mg/l), Calcium (11 mg/l), Iron (0.95 mg/l), Manganese (0.18 mg/l), Sodium (5.7 mg/l) and Zinc (0.024 mg/l).

The following hazardous substance was detected in surface water collected from the Blue John Creek portion of the TDL at a concentration significantly above background (Refs. 1, 80 & 81): Zinc at one (1) location.

The following hazardous substance was detected in surface water collected from the Blue John Creek portion of the TDL at a concentration that exceeded the U.S. EPA Freshwater Surface Water Screening Value (Acute), (Refs. 80, 81 & 82): Aluminum at one (1) location (including duplicate sample).

Analytical results of surface water samples collected from the Blue John Creek portion of the TDL are summarized in Table 9.

5.4.2 Stream Sediment Analytical Results (Target Distance Limit)

The following hazardous substances were detected in sediment collected from the Blue John Creek portion of the Target Distance Limit (TDL) in at least one (1) of two (2) locations (highest concentration detected in parenthesis), (Refs. 80 & 81):

Metals – Aluminum (2000 mg/kg), Barium (30 mg/kg), Chromium (12 mg/kg), Iron (5200 mg/kg), Lead (15 mg/kg), Manganese (100 mg/kg), Vanadium (14 mg/kg), and Zinc (13 mg/kg).
Pesticides – Dieldrin (0.0036 mg/kg).

The following hazardous substances were detected in sediment collected from the Blue John Creek portion of the TDL at a concentration significantly above background (Refs. 1, 80 & 81): Barium at one (1) location, Lead at one (1) location and Dieldrin at one (1) location.

The following hazardous substance was detected in sediment collected from the Blue John Creek portion of the TDL at a concentration that exceeded the U.S. EPA Sediment Screening Value (Refs. 80, 81 & 83): Dieldrin at one (1) location.

Analytical results of sediment samples collected from the Blue John Creek portion of the TDL are summarized in Table 10.

5.4.3 Stream Surface Water Analytical Results (Overland Run-Off Route)

The following hazardous substances were detected in surface water collected from the Overland Run Off Route (OROR) in at least one (1) of three (3) locations (highest concentration detected in parenthesis), (Refs. 80 & 81):

Metals – Aluminum (0.7 mg/l), Calcium (11 mg/l), Iron (1.7 mg/l), Manganese (0.29 mg/l), Sodium (6.6 mg/l) and Zinc (0.028 mg/l).

The following hazardous substances were detected in surface water collected from the OROR at concentrations significantly above background (Refs. 1, 80 & 81): Sodium at three (1) locations and Zinc at three (3) locations.

The following hazardous substance was detected in surface water collected from the OROR at a concentration that exceeded the U.S. EPA Freshwater Surface Water Screening Value (Chronic), (Refs. 80, 81 & 82): Iron at two (2) locations.

Analytical results of surface water samples collected from the OROR are summarized in Table 11.

5.4.4 Stream Sediment Analytical Results (Overland Run-Off Route)

The following hazardous substances were detected in sediment collected from the Overland Run Off Route (OROR) in at least one (1) of three (3) locations (highest concentration detected in parenthesis), (Refs. 80 & 81):

Metals – Aluminum (4400 mg/kg), Barium (52 mg/kg), Cadmium (0.58 mg/kg), Calcium (540 mg/kg), Chromium (27 mg/kg), Copper (7.6 mg/kg), Iron (24000 mg/kg), Lead (130 mg/kg), Magnesium (580 mg/kg), Manganese (250 mg/kg), Nickel (4.2 mg/kg), Vanadium (59 mg/kg) and Zinc (52 mg/kg).

The following hazardous substances were detected in sediment collected from OROR at a concentration significantly above background (Refs. 1, 80 & 81): Aluminum at one (1) location, Barium at three (3) locations, Cadmium at one (1) location, Calcium at one (1) location, Chromium at two (2) locations, Copper at three (3) locations, Iron at two (2) locations, Lead at two (2) locations, Magnesium at one (1) location, Manganese at one (1) location, Nickel at one (1) location, Vanadium at two (2) locations and Zinc at two (2) locations.

The following hazardous substance was detected in sediment collected from the OROR at a concentration that exceeded the U.S. EPA Sediment Screening Value (Refs. 80, 81 & 83): Lead at one (1) location.

Analytical results of sediment samples collected from the OROR are summarized in Table 12.

5.4.5 Stream Surface Water Analytical Results (Streams Draining into the Overland Run-Off Route)

The following hazardous substances were detected in surface water collected from streams draining into the OROR in at least one (1) of three (3) locations (highest concentration detected in parenthesis), (Refs 80 & 81):

Metals: Aluminum (0.77 mg/l), Calcium (12 mg/l), Iron (1.3 mg/l), Manganese (0.25 mg/l), Sodium (6 mg/l) and Zinc (0.022 mg/l).

The following hazardous substances were detected in surface water collected from streams draining into the OROR at concentrations significantly above background (Refs. 1, 80 & 81): Sodium at two (2) locations and Zinc at one (1) location.

The following hazardous substances were detected in surface water collected from streams draining into the OROR at concentrations that exceeded the U.S. EPA Freshwater Surface Water Screening Value (Chronic), (Refs. 80, 81 & 82): Aluminum at one (1) location and Iron at one (1) location.

Analytical results of surface water samples collected from streams draining into the OROR are summarized in Table 11.

5.4.6 Stream Sediment Analytical Results (Streams Draining into the Overland Run-Off Route)

The following hazardous substances were detected in sediment collected from streams draining into the OROR in at least one (1) of three (3) locations (highest concentration detected in parenthesis), (Refs. 80 & 81):

Metals: Aluminum (8000 mg/kg), Barium (140 mg/kg), Cadmium (0.78 mg/kg), Chromium (28 mg/kg), Cobalt (8.6 mg/kg), Copper (10 mg/kg), Iron (38000 mg/kg), Lead (24 mg/kg), Magnesium (700 mg/kg), Manganese (390 mg/kg), Nickel (10 mg/kg), Selenium (21 mg/kg), Vanadium (120 mg/kg) and Zinc (40 mg/kg).

The following hazardous substances were detected in sediment collected from streams draining into the OROR at concentrations significantly above background (Refs. 1, 80 & 81): Aluminum at two (2) locations, Barium at three (3) locations, Cadmium at two (2) locations, Chromium at three (3) locations, Cobalt at three (3) locations, Copper at three (3) locations, Iron at two (2) locations, Lead at one (1) location, Magnesium at one (1) location, Manganese at two (2) locations, Nickel at two (2) locations, Selenium at two (2) locations, Vanadium at two (2) locations and Zinc at one (1) location.

No hazardous substances were detected in sediment collected from streams draining into the OROR at concentrations that exceeded the U.S. EPA Sediment Screening Value (Refs. 80, 81 & 83).

Analytical results of sediment samples collected from streams draining into the OROR are summarized in Table 12.

5.4.7 On-Site Fire Pond Surface Water Analytical Results (Target Distance Limit)

The following hazardous substances were detected in surface water collected from the on-site fire pond portion of the Target Distance Limit (TDL) in at least one (1) of two (2) locations (highest concentration detected in parenthesis), (Refs 73 & 74):

Metals: Aluminum (1.0 mg/l), Calcium (11 mg/l), Iron (1.2 mg/l), Manganese (0.25 mg/l) and Sodium (9.2 mg/l).

No hazardous substances were detected in surface water collected from the on-site fire pond portion of the TDL at concentrations significantly above background (Refs. 1, 73 & 74).

The following hazardous substances were detected in surface water collected from the on-site fire pond portion of the TDL at a concentration that exceeded the U.S. EPA Freshwater Surface Water Screening Value (Acute and/or Chronic), (Refs 73, 74 & 82): Aluminum at two (2) locations and Iron at two (2) locations.

Analytical results of surface water samples collected from the on-site fire pond portion of the TDL are summarized in Table 13.

5.4.8 Fire Pond Sediment Analytical Results (Target Distance Limit)

The following hazardous substances were detected in sediment collected from the on-site fire pond portion of the Target Distance Limit (TDL) in at least one (1) of two (2) locations (highest concentration detected in parenthesis), (Refs. 73 & 74):

Volatile Organics – p-Isopropyltoluene (0.03 mg/kg).

Semi Volatiles – Benzo[a]pyrene (2.6 mg/kg), Benzo[b]fluoranthene (2.9 mg/kg), Fluoranthene (3.5 mg/kg), Indeno[1,2,3-cd]pyrene (2.6 mg/kg) and Pyrene (3.0 mg/kg).

Metals – Aluminum (21000 mg/kg), Barium (140 mg/kg), Beryllium (0.92 mg/kg), Calcium (2400 mg/kg), Chromium (34 mg/kg), Cobalt (14 mg/kg), Copper (140 mg/kg), Iron (39000 mg/kg), Lead (72 mg/kg), Magnesium (1200 mg/kg), Manganese (370 mg/kg), Nickel (18 mg/kg), Vanadium (100 mg/kg) and Zinc (230 mg/kg).

Pesticides – 4,4-DDT (0.074 mg/kg) and Dieldrin (0.035) mg/kg.

The following hazardous substances were detected in sediment collected from the on-site fire pond portion of the TDL at concentrations significantly above background (Refs. 1, 73 & 74): p-Isopropyltoluene at one (1) location, Benzo[a]pyrene at one (1) location, Benzo[b]fluoranthene at one (1) location, Fluoranthene at one (1) location, Indeno[1,2,3-cd]pyrene at one (1) location, Pyrene at one (1) location, Copper at one (1) location, Zinc at one (1) location, 4,4-DDT at one (1) location and Dieldrin at one (1) location.

The following hazardous substances were detected in sediment collected from the on-site fire pond portion of the TDL at concentrations that exceed the U.S. EPA Sediment Screening Value (Refs 73, 74 & 83): Benzo[a]pyrene at one (1) location, Fluoranthene at one (1) location, Pyrene at one (1) location, Copper at two (2) locations, Lead at two (2) locations, Nickel at one (1) location, Zinc at one (1) location, 4,4-DDT at one (1) location and Dieldrin at one (1) location.

Analytical results of sediment samples collected from the on-site fire pond portion of the TDL are summarized in Table 14.

5.5 Surface Water/Sediment Conclusions

• Blue John Creek (Target Distance Limit)

For the purposes of this SI, the release of Zinc to surface water, at a concentration significantly above background, within a portion of Blue John Creek designated as a wetland sensitive environment, is considered at least partially attributable to the site (Refs. 1, 80 & 81). At that same location, the concentration of Zinc detected in surface water (0.024 mg/l) did not exceed the U.S. EPA Freshwater Surface Water Screening Values for Zinc (Acute: 0.065 mg/l, Chronic: 0.059 mg/l), nor did it exceed the benchmark for Zinc set forth in Superfund Chemical Data Matrix (0.12 mg/l), (Refs. 80, 81, 82 & 84).

For the purposes of this SI, releases of Barium, Lead and Dieldrin to sediment, at concentrations significantly above background, within a portion of Blue John Creek designated as a wetland sensitive environment, are considered at least partially attributable to the site (Refs. 1, 80 & 81).

The U.S. EPA has not established a sediment screening value for Barium (Ref. 83). Within the portion of Blue John Creek designated as a wetland sensitive environment: the concentration of Lead detected in sediment (15 mg/kg) did not exceed the U.S. EPA Sediment Screening Value for Lead (52.3 mg/kg); however, the concentration of Dieldrin detected in sediment (0.0036

mg/kg) did exceed the U.S. EPA Sediment Screening Value for Dieldrin (0.0033 mg/kg), (Refs. 80, 81 & 83).

As per the HRS, concentrations of hazardous substances detected in sediment are not compared to benchmarks set forth in the Superfund Chemical Data Matrix when evaluating the surface water pathway (Ref. 1).

- On-Site Fire Pond (Target Distance Limit)

Within the on-site fire pond, although no hazardous substances were detected in surface water at concentrations significantly above background, the concentrations of Aluminum detected in surface water (0.94 mg/l and 1.0 mg/l) exceeded the U.S. EPA Freshwater Surface Water Screening Values for Aluminum (Acute: 0.75 mg/l, Chronic: 0.087 mg/l), (Refs. 1, 73, 74 & 82). Similarly, concentrations of Iron detected in surface water (1.1 mg/l and 1.2 mg/l) exceeded the U.S. EPA Freshwater Surface Water Value for Iron (Acute: does not exist, Chronic: 1.0 mg/l).

For the purposes of this SI, p-Isopropyltoluene, Benzo[a]pyrene, Benzo[b]fluoranthene, Fluoranthene, Indeno[1,2,3-cd]pyrene, Copper, Zinc, 4,4-DDT and Dieldrin were detected in on-site fire pond sediment at concentrations significantly above background (Refs. 1, 73 & 74). Additionally, Benzo[a]pyrene, Fluoranthene, Pyrene, Copper, Lead, Nickel, Zinc, 4,4-DDT and Dieldrin were detected in on-site fire pond sediment at concentrations that exceeded U.S. EPA Sediment Screening Values (Refs. 73, 74 & 83).

In conclusion, the Drinking Water Threat is not of concern at this time because there is no known drinking water intake located within the surface water TDL (Refs. 1, 5, 6, 11, 52, 53 & 54). Similarly, the Human Food Chain Threat is not of concern at this time because the human consumption of food chain organisms obtained from the surface water TDL was not positively confirmed as part of this SI (Refs. 1, 5, 6, 11, 62, 71 & 80).

The Environmental Threat of the Surface Water Pathway by itself warrants further evaluation under the HRS (Refs. 1, 5, 6, 11, 73, 74, 80 & 81).

6.0 SOIL EXPOSURE AND AIR MIGRATION PATHWAYS

6.1 Physical Conditions

The site occupies part of a hillside that slopes south (Refs. 5 & 6). Surrounded by private residences of the Hillside Community, the site is bounded to the north by Brownwood Avenue, bounded to the east by Lincoln Street, part of Fourth Avenue and Valley Street, bounded to the south by undeveloped property and bounded to the west by the backyards of private residences located on Taft Street, Stonewall Street, Fourth Avenue and Houston Street (Ref. 5 & 13). A six (6) to eight (8) foot chain-link fence restricts physical access to most areas of the site (other than parking lots), (Refs. 5 & 71). The approximate site boundaries are depicted in Figures 1, 2 and 3.

Of the site's approximate forty (40) acres, approximately ten (10) acres are not covered by buildings, paving or the on-site fire pond (Refs. 5, 13, 14 & 71). For the purposes of this SI, ten

(10) acres of the site constitute penetrable cover that includes, but is not limited to, landscaped areas, bare soil and Lee Branch sediments.

6.2 Soil Exposure Targets

6.2.1 Resident Population, On-Site Workers and Nearby Population

Immediately east of the site, there are currently fourteen (14) residences whose backyards are contiguous to the western boundary of the site (Refs. 5, 13, 71, 73 & 76). Of these fourteen (14) residences, one (1) is located on Taft Street, seven (7) are located on Stonewall Street, two (2) are located on Fourth Avenue and four (4) are located on Houston Street. Based upon an average of two point six (2.6) individuals per household, approximately thirty-six (36) individuals occupy the fourteen (14) residences. The residence located at 903 Taft Street has recently burned down, therefore, it is not considered for the purposes of this SI (Refs. 76 & 86). Residences whose backyards are contiguous to the western boundary of the site are depicted in Figures 2, 3 & 11.

As of September 2010, approximately 174 individuals work on-site during various shifts (Ref. 85).

Based upon information obtained from the 2000 Census of Population and Housing, 454 individuals reside within one quarter ($\frac{1}{4}$) mile of the site reference point, 1214 individuals reside between one quarter ($\frac{1}{4}$) mile and one half ($\frac{1}{2}$) mile of the site reference point and 2921 individuals reside between one half ($\frac{1}{2}$) mile and one (1) mile of the site reference point (Ref. 56). The number of individuals per concentric distance category are set forth in Table 15.

6.2.2 Terrestrial Sensitive Environments

The following three (3) protected terrestrial sensitive environments have been reported to currently occur in Troup County, Georgia (Ref. 77):

- Bald Eagle (*Haliaeetus leucocephalus*)

Currently designated by the State of Georgia as a threatened bird species, the Bald Eagle is found throughout most of the United States and Canada (Refs. 65, 77 & 78).

- Bay Star-Vine (*Schisandra glabra*)

Designated by the State of Georgia as a threatened plant species, the Bay Star-Vine (also known as the Climbing Magnolia and/or Wild Sarsaparilla) can be found twining over understory trees and shrubs in rich forested bottomlands and adjacent lower slopes of certain sections of the Piedmont Plateau in Georgia (Refs. 64, 77 & 78).

- Florida Panther (*Puma concolor coryi*)

Designated by both the Federal Government and the State of Georgia as an endangered animal species, the Florida Panther (also known as the Mountain Lion) was once known to occur over most of the State of Georgia (Refs. 65, 77, 78 & 79).

Protected species reported to occur in Troup County, Georgia are included in Table 7.

None of the above referenced three (3) protected terrestrial sensitive environments were observed on-site at the time of the July 2007 on-site reconnaissance, the February 2010 on-site reconnaissance or the April 2010 Phase II of II sampling event (Refs. 5, 71, 73, 77, 78 & 79). For the purposes of this SI, no protected terrestrial sensitive environments are considered to occur on any on-site area where a hazardous substance has been deposited, stored, disposed or placed (including soil or sediment that may have become contaminated as a result of hazardous substance migration).

6.2.3 Resources

No evidence of land use for the purposes of commercial agriculture, commercial silviculture or commercial livestock production or grazing was observed at the time of the July 2007 on-site reconnaissance, the February 2010 on-site reconnaissance or the or the April 2010 Phase II of II sampling event (Refs. 5, 71 & 73).

6.3 Air Migration Targets

6.3.1 Target Population and Nearest Individual

Based upon information obtained from the 2000 Census of Population and Housing, twenty nine thousand one hundred forty-six (29,146) individuals reside within four (4) miles of the site reference point (Refs. 5, 6 & 56). The number of individuals per concentric distance category are set forth in Table 15.

6.3.2 Sensitive Environments (Aquatic and Terrestrial)

Approximately ten (10) acres in size, a Palustrine System Forested Wetland is located between zero (0) and one quarter ($\frac{1}{4}$) mile of the site reference point (Refs. 5, 6, 63 & 87). Associated with Lee Branch, the ten (10) acre qualifying wetland is located just northwest of the site. No other qualifying wetlands exist within one (1) mile of the site reference point. For the purposes of this SI, the following acres of qualifying wetlands are estimated from the Wetlands Online Mapper Website (see Appendix K: Wetland Maps from Wetlands Online Mapper Website):

- 150 to 200 acres of qualifying wetlands are located between one (1) and two (2) miles of the site reference point;
- 150 to 200 acres of qualifying wetlands are located between two (2) and three (3) miles of the site reference point; and
- Greater than 500 acres of qualifying wetlands are located between three (3) and four (4) miles of the site reference point.

Between three (3) and four (4) miles of the site reference point, the Georgia Department of Natural Resources (Wildlife Resource Division) has confirmed two (2) habitat locations within Long Cane Creek where the Highscale Shiner is known to currently exist (upstream of the

Surface Water Target Distance Limit), (Refs. 5, 6 & 88). The Highscale Shiner (*Notropis hypsilepis*) is currently designated by the State of Georgia as a rare fish species (Refs. 65, 66, 77 & 78). An artistic representation of the Highscale Shiner (by Joseph R. Tomelleri) is included as Figure 9 (Ref. 66).

See Sections 5.2.3.2 (Aquatic Sensitive Environments) and 6.2.2 (Terrestrial Sensitive Environments) of this SI for descriptions of protected species reported to currently occur in Troup County, Georgia (Ref. 77). Further, the protected species are included in Table 7.

6.3.3 Resources

For the purposes of this SI, land use for the purposes of commercial agriculture or commercial silviculture was not positively confirmed to currently occur within one-half (½) mile of the site reference point. However, for the purposes of this SI, the un-named athletic field immediately northwest of the site (south of Jackson Street) and Callaway Stadium immediately northeast of the site (south of Dallas Street) are considered to be designated recreation areas located within one half (½) mile of the site reference point (Refs. 5 & 6).

6.4 Surface Soil Sample Locations

As part of the April 19 and 20, 2010 sampling event (Phase II of II), the GA EPD collected nine (9) on-site surface soil samples (0 – 2 feet below ground surface) and three (3) off-site surface soil samples from three (3) contiguous residential properties (Ref. 73). Additionally, one (1) off-site surface soil sample was collected at Granger Park for background comparison purposes. A trip report documenting the April 19 and 20, 2010 sampling event is included as Appendix D. Brief descriptions of on-site surface soil, off-site surface soil (contiguous residential properties) and off-site background sample locations are described as follows (see Table 1: Phase II of II Sample Collection), (Refs. 72 & 73):

6.4.1 On-Site Surface Soil Sample Locations

- STA-18-SS (HW11001) – Surface soil sample collected on-site, from northeast corner of site, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 22 – 24 of 53);
- STA-19-SS (HW11002) – Surface soil sample collected on-site, from near eastern boundary of site, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 9 & 10 of 53);
- STA-20-SS (HW11003) – Surface soil sample collected on-site, from southeast corner of site, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 11 & 12 of 53);
- STA-22-SS (HW11005) – Surface soil sample collected on-site, from between fire pond and Lee Branch, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 44 & 48 – 49 of 53);

- STA-24-SS (HW11007) – Surface soil sample collected on-site, from between Lee Branch and residential property, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 45 – 47 of 53);
- STA-24-DUP (HW11008) – Duplicate of STA-24-SS (HW11007);
- STA-26-SS (HW11010) – Surface soil sample collected on-site, from near northeast corner of fire pond, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 25 – 27 of 53);
- STA-27-SS (HW11012) – Surface soil sample collected on-site, from small wooded area immediately east of fire pond, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 40 & 42 – 43 of 53); and
- STA-29-SS (HW11011) – Surface soil sample collected on-site, from near northeast corner of fire pond, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 28 – 30 of 53).

The approximate locations of on-site sampling stations STA-18, STA-19, STA-20, STA-22, STA-24, STA-26, STA-27 and STA-29 are depicted in Figure 3.

6.4.2 Off-Site Surface Soil Sample Locations (Contiguous Residential Properties)

- STA-21-SS (HW11004)– Surface soil sample collected off-site, from contiguous residential property, within two hundred (200) feet of residential structure, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 31 – 33 of 53).
- STA-23-SS (HW11006) Surface soil sample collected off-site, from contiguous residential property, within two hundred (200) feet of residential structure, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 34 – 36 of 53).
- STA-25-SS (HW11009) – Surface soil sample collected off-site, from contiguous residential property, within two hundred (200) feet of residential structure, to determine whether hazardous substances at least partially attributable to the site are present at this location (see Appendix D, Attachment D: Photos 37 – 39 of 53).

The approximate locations of off-site sampling stations STA-21, STA-23 and STA-25 are depicted in Figure 3.

6.4.3 Off-Site Surface Soil Background Location

- STA-17-SS (HW10999) – Surface soil sample collected off-site, from Granger Park, to determine whether hazardous substances not attributable to the site are present at this location (see Appendix D, Attachment D: Photos 50 & 52 – 53 of 53);

The approximate location of sample station STA-17 is depicted in Figure 4.

6.5 Surface Soil Analytical Results

The GA EPD Laboratory analyzed surface soil samples (0 – 2 feet below ground surface) collected during the April 19 and 20, 2010 sampling event (Phase II of II), (Refs. 72, 73 and 74). Analyses included Volatile Organics, Semi-Volatile Organics, Cyanide, Target Analyte List (TAL) Metals, Mercury, Pesticides and Polychlorinated Biphenyls. Laboratory Reports, QA/QC Batch Reports, Request for Laboratory Analysis Sheets and Chain of Custody Records for the April 19 and 20, 2010 sampling event (Phase II of II) are included as Appendix E.

3.2.2 On-Site Surface Soil Analytical Results

The following hazardous substances were detected in surface soil (0 – 2 feet below ground surface) collected on-site in at least one (1) of nine (9) locations (highest concentration detected in parenthesis), (Refs. 73 & 74):

Volatile Organics: Acetone (0.22 mg/kg).

Semi Volatiles: Benzo[a]anthracene (1.5 mg/kg), Benzo[a]pyrene (1.2 mg/kg), Benzo[b]fluoranthene (1.5 mg/kg), Bis(2-Ethylhexyl)phthalate (2.9 mg/kg), Chrysene (1.6 mg/kg), Fluoranthene (3.7 mg/kg), Phenanthrene (2.4 mg/kg) and Pyrene (2.7 mg/kg).

Metals: Aluminum (2400 mg/kg), Arsenic (24 mg/kg), Barium (410 mg/kg), Beryllium (0.97 mg/kg), Cadmium (0.53 mg/kg), Calcium (14000 mg/kg), Chromium (150 mg/kg), Cobalt (21 mg/kg), Copper (56 mg/kg), Iron (59000 mg/kg), Lead (110 mg/kg), Manganese (6900 mg/kg), Magnesium (1900 mg/kg), Nickel (47 mg/kg), Potassium (4500 mg/kg), Vanadium (180 mg/kg) and Zinc (350 mg/kg).

Pesticides: 4,4-DDE (0.013 mg/kg), 4,4-DDT (0.35 mg/kg), Aldrin (0.11 mg/kg) and Dieldrin (0.087 mg/kg).

The following hazardous substances were detected in surface soil collected on-site at concentrations significantly above background (indicates an analyte whose concentration exceeds three (3) times background concentration or exceeds the reporting limit of the background when not detected in background), (Refs. 1, 73 & 74): Acetone at seven (7) locations, Benzo[a]anthracene at one (1) location, Benzo[a]pyrene at one (1) location, Benzo[b]fluoranthene at one (1) location, Bis(2-Ethylhexyl)phthalate at one (1) location, Chrysene at one (1) location, Fluoranthene at two (2) locations, Phenanthrene at one (1) location, Pyrene at two (2) locations, Arsenic at three (3) locations, Barium at two (2) locations, Calcium at five (5) locations, Chromium at one (1) location, Copper at one (1) location, Lead at three (3)

locations, Magnesium at one (1) location, Manganese at two (2) locations, Nickel at one (1) location, Potassium at one (1) location, Zinc at four (4) locations, 4,4-DDT at two (2) locations, Aldrin at one (1) location and Dieldrin at two (2) locations.

The following hazardous substances were detected in surface soil collected on-site at concentrations that exceeded the U.S. EPA Soil Screening Values (Residential and/or Industrial), (Refs. 73, 74 & 75): Benzo[a]anthracene at one (1) location, Benzo[b]pyrene at one (1) location, Benzo[b]fluoranthene at one (1) location, Arsenic at three (3) locations, Manganese at one (1) location, Aldrin at one (1) location and Dieldrin at one (1) location.

Analytical results of surface soil samples collected on-site are summarized in Table 3.

6.5.2 Off-Site Surface Soil Analytical Results (Contiguous Residential Properties)

The following hazardous substances were detected in surface soil (0 – 2 feet below ground surface) collected off-site in at least one (1) of three (3) contiguous residential properties (highest concentration detected in parenthesis), (Refs. 73 & 74):

Volatile Organics: Acetone (0.15 mg/kg).

Metals: Aluminum (16000 mg/kg), Arsenic (11 mg/kg), Barium (170 mg/kg), Beryllium (0.58 mg/kg), Calcium (2200), Chromium (38 mg/kg), Cobalt (9.4 mg/kg), Copper (270 mg/kg), Iron (37000 mg/kg), Lead (190 mg/kg), Magnesium (710 mg/kg), Manganese (600 mg/kg), Nickel (8.9 mg/kg), Potassium (660 mg/kg), Vanadium (88 mg/kg) and Zinc (240 mg/kg).

Pesticides: Dieldrin (0.0042 mg/kg) and Dursban (0.012 mg/kg).

The following hazardous substances were detected in surface soil collected off-site at concentrations significantly above background (Refs. 1, 73 & 74): Acetone at two (2) residential properties, Arsenic at one (1) residential property, Calcium at three (3) residential properties, Copper at one (1) residential property, Lead at two (2) residential properties, Zinc at two (2) residential properties, Dieldrin at one (1) residential property and Dursban at one (1) residential property.

The following hazardous substance was detected in surface soil collected off-site at a concentration that exceeded the U.S. EPA Soil Screening Values (Residential and Industrial), (Refs. 73, 74 & 75): Arsenic at one (1) residential property.

Analytical results of surface soil samples collected off-site are summarized in Table 3.

6.6 Air Monitoring Results

A release of a hazardous substance to the air is fundamentally different from a release of a hazardous substance to other environmental media in that release to air are transient in nature; it is unlikely that such a transient release could be detected during a scheduled sampling event (Refs. 2 & 3). Accordingly, the GA EPD did not propose the collection of air samples or air monitoring at the site.

6.7 Soil and Air Conclusions

6.7.1 Soil Conclusions

For the purposes of this SI, releases of Arsenic to surface soil (0 – 2 feet above ground surface), at concentrations significantly above background, occurring on-site at three (3) locations, and occurring off-site at one (1) location (a contiguous residence), are considered at least partially attributable to the site (Refs. 1, 73 & 74). Further, the concentration of Arsenic detected at all four (4) locations [including the contiguous residence (11 mg/kg)] exceeded the U.S. EPA Soil Screening Values [Residential (0.39 mg/kg) and Industrial (1.6 mg/kg)] and the cancer risk benchmark set forth in the Superfund Chemical Data Matrix (0.43 mg/kg), (Refs. 73, 74, 75 & 84). At the contiguous residence (11 mg/kg), the non-cancer risk benchmark was not exceeded (23 mg/kg).

The area circumscribed by the three (3) on-site locations and the one (1) off-site location (i.e., on residential property) where Arsenic was detected in surface soil at concentrations significantly above background is approximately 150,000 square feet (not including that area covered by the on-site fire pond), (Refs. 1, 2, 4, 13, 73 & 74). A total of seven (7) individuals reside within two (2) residential structures that are within 200 feet of the single off-site sampling location (i.e., on residential property). The area of surface soil potentially contaminated with Arsenic is depicted in Figure 11.

Despite seven (7) individuals residing within 200 feet of surface soil contaminated with Arsenic, at a concentration exceeding the cancer risk benchmark set forth in the Superfund Chemical Data Matrix, the Soil Exposure Pathway by itself does not warrant further evaluation under the HRS.

6.7.2 Air Conclusions

A release of a hazardous substance to the air is fundamentally different from a release of a hazardous substance to other environmental media in that release to air are transient in nature; it is unlikely that such a transient release could be detected during a scheduled sampling event (Refs. 2 & 3). Accordingly, the GA EPD did not propose the collection of air samples or air monitoring at the site.

In conclusion, the Air Pathway by itself does not warrant further evaluation under the HRS.

7.0 OVERALL SUMMARY AND CONCLUSIONS

The Groundwater Pathway, the Soil Exposure Pathway and the Air Pathway individually do not warrant further evaluation under the HRS. The Drinking Water and Human Food Chain Threats of the Surface Water Pathway are not of concern at this time due to the lack of any threat specific targets. However, the Environmental Threat of the Surface Water Pathway by itself warrants further evaluation under the HRS.

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FIGURES



FIGURE 1: Site Location, Site Reference Point & Approximate Site Boundaries (Refs. 5, 6, 13, 15 & 18)

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10840215 Site ID: GAD981225993

Site Name: Milliken & Company

Nature of Material:

Map: ☐

Computer Disks: ☐

Photos: ☐

CD-ROM: ☐

Blueprints: ☐

Oversized Report: ☐

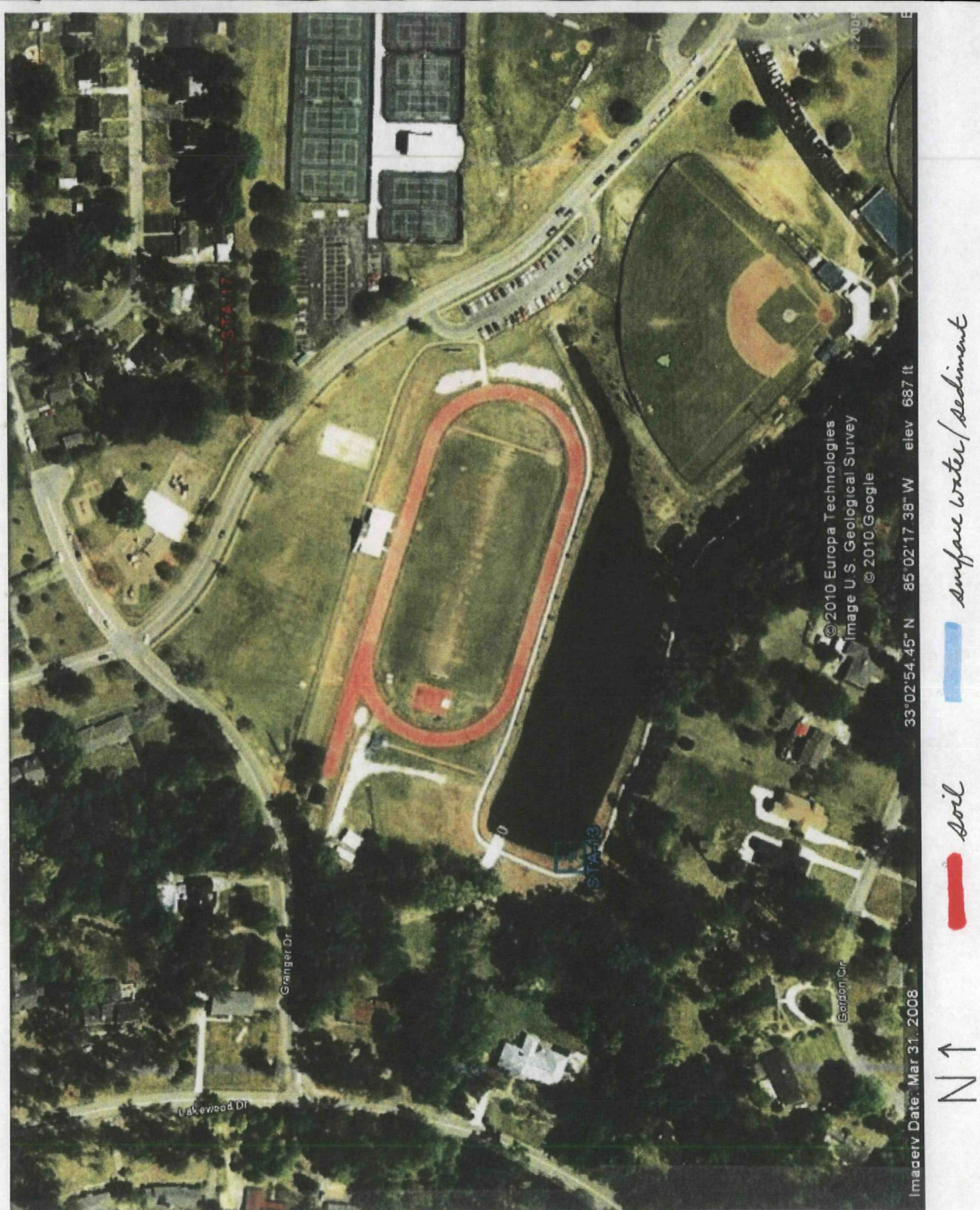
Slides: ☐

Log Book: ☐

Other (describe): Site Sketch (Refs. 5, 11, 13, 18 & 71) (Fig. 2)

Amount of material: _____

* Please contact the appropriate Records Center to view the material *



**FIGURE 4: Off-Site Sampling Locations at Granger Park
(Pond Surface Water/Sediment & Soil), (Ref. 73)**

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10860215 Site ID: GAD981275993

Site Name: Milliken & Company

Nature of Material:

Map:	<input checked="" type="checkbox"/>	Computer Disks:	<input type="checkbox"/>
Photos:	<input type="checkbox"/>	CD-ROM:	<input type="checkbox"/>
Blueprints:	<input type="checkbox"/>	Oversized Report:	<input type="checkbox"/>
Slides:	<input type="checkbox"/>	Log Book:	<input type="checkbox"/>

Other (describe): Radius map (19.5)

Amount of material: _____

* Please contact the appropriate Records Center to view the material *



FIGURE 6: Overland Run-Off Route & Probable Point of Entry (Refs. 1, 5, 6, 11, 58 & 59)

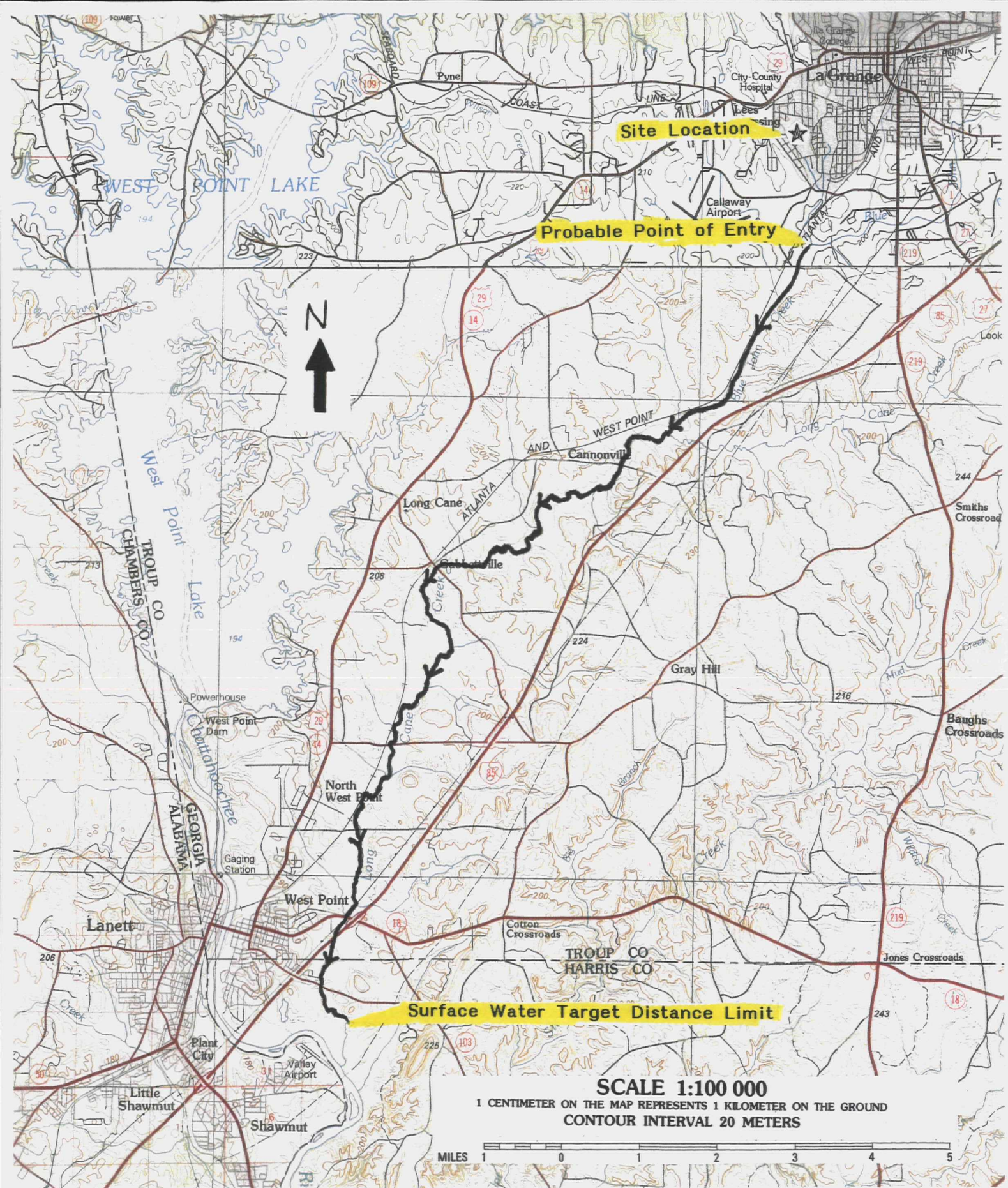


FIGURE 7: Probable Point of Entry & Surface Water Target Distance Limit (Refs. 1, 5, 6, 11, 48, 58 & 59)

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10860215

Site ID: GAD981275993

Site Name: Milliken Company

Nature of Material:

Map:

☒

Computer Disks:

☐

Photos:

☐

CD-ROM:

☐

Blueprints:

☐

Oversized Report:

☐

Slides:

☐

Log Book:

☐

Other (describe):

Point of Probable Entry (Fig. 8)

Amount of material:

* Please contact the appropriate Records Center to view the material *

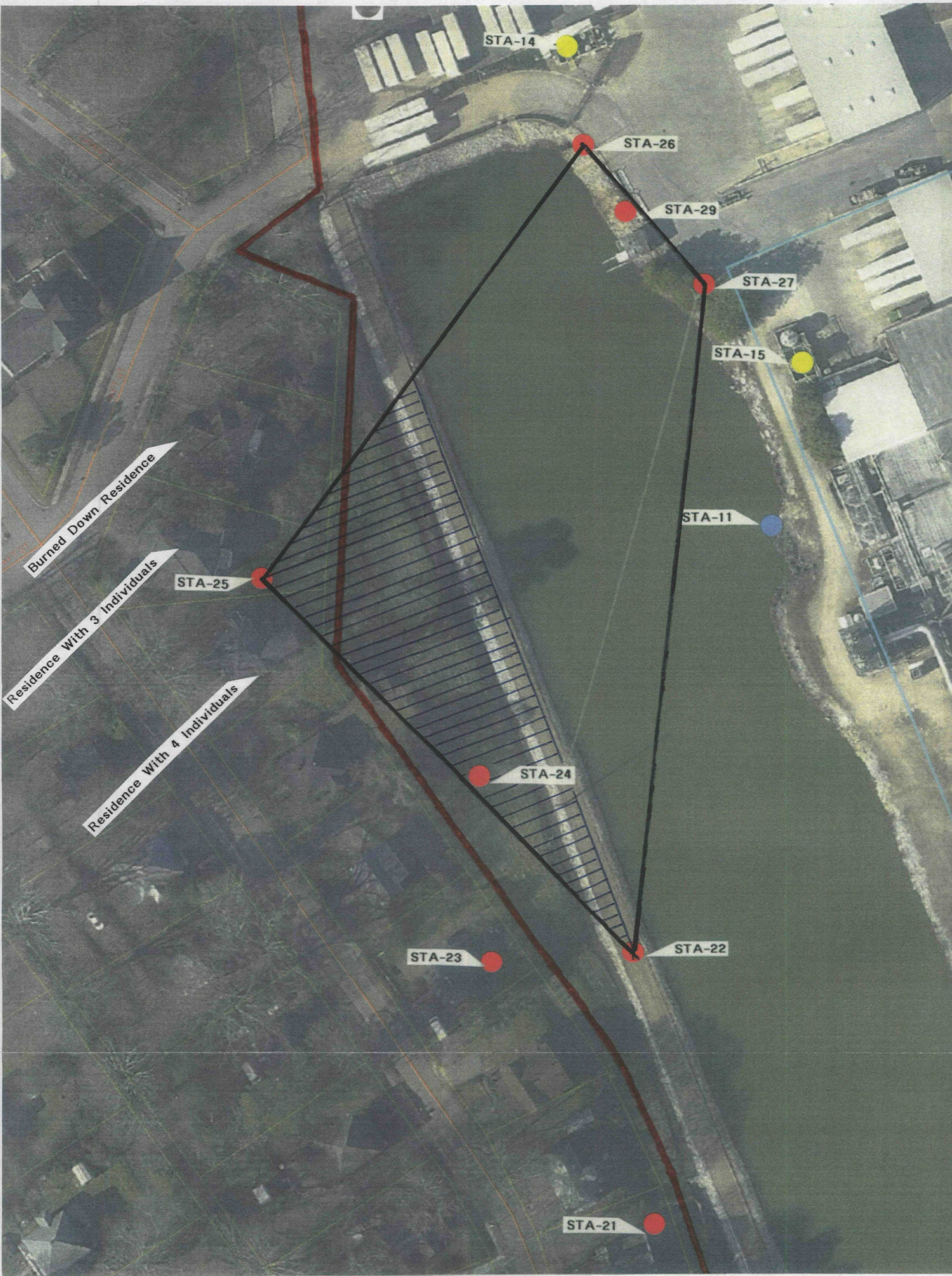


Not Shown to Scale – Maximum Length Approximately Two (2) Inches – Drawing by Joseph R. Tomelleri

FIGURE 9: Artistic Representation of the Highscale Shiner (*Notropis hypsilepis*), (Ref. 66)

FIGURE 10: On-Site and Off-Site Sample Locations (Stream Surface Water/Sediment), (Refs. 11, 71, 72 & 80)





 = Approximate Site Boundary

 = Approximate Area of Soil Potentially Contaminated with Arsenic

1 Inch = Approximately 133 Feet

FIGURE 11: Area of Surface Soil Potentially Contaminated with Arsenic (Refs. 13, 73, 74 & 86)

Tables

TABLE 1 – Phase II of II Sample Collection (Refs. 72 & 73)
Site Inspection – Milliken & Company
April 19 and 20, 2010

SAMPLE MEDIA / SAMPLE TYPE	STATION NO. SAMPLE NO.	SAMPLE DESCRIPTION AND OBJECTIVE
Surface Water / Release (Perennial)	STA-11-SW HW10990	Surface water sample collected on-site, from the eastern side of fire pond (towards north end), to determine whether hazardous substances at least partially attributable to the site are present at this location.
Sediment / Release (Perennial)	STA-11-SED HW10991	Sediment sample collected on-site, from the same location as STA-11-SW (HW10990), to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Water / Release (Perennial)	STA-12-SW HW10992	Surface water sample collected on-site, from the southeast corner of fire pond, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Sediment / Release (Perennial)	STA-12-SED HW10993	Sediment sample collected on-site, from the same location as STA-12-SW (HW10992), to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Water /Background (Perennial)	STA-13-SW HW10994	Surface water collected off-site, from Granger Park pond, to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.
Sediment / Background	STA-13-SED HW10995	Sediment collected off-site, from the same location as STA-13-SW (HW10994), to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.
Waste Liquid / Source Characterization	STA-14-WL HW10996	Waste liquid sample collected on-site, from concrete neutralization basin, to determine whether hazardous substances attributable to the site are present at this location.
Waste Liquid / Source Characterization	STA-15-WL HW10997	Waste liquid sample collected on-site, from 12,000 gallon above ground tank, to determine whether hazardous substances attributable to the site are present at this location.
Waste Solid / Source Characterization	STA-16-WS HW10998	Waste solid sample (paint chips) collected on-site, from within multi-story vacant brick building, to determine whether hazardous substances attributable to the site are present at this location.

SAMPLE MEDIA / SAMPLE TYPE	STATION NO. SAMPLE NO.	SAMPLE DESCRIPTION AND OBJECTIVE
Surface Soil / Background	STA-17-SS HW10999	Surface soil sample (0 to 2 feet) collected off-site, from Granger Park, to determine whether hazardous substances <u>not</u> attributable to the site are present at this location (*Originally proposed off-site near site NW corner).
Subsurface Soil / Background	STA-17-SUB HW11000	Subsurface soil sample (> 2 feet) collected off-site, from the same location as STA-17-SS (HW10999), to determine whether hazardous substances <u>not</u> attributable to the site are present in this location (*Originally proposed off-site near site NW corner).
Surface Soil / Release & Source Characterization	STA-18-SS HW11001	Surface soil sample (0 to 2 feet) collected on-site, from NE corner of site, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-19-SS HW11002	Surface soil sample (0 to 2 feet) collected on-site, from near eastern boundary of site, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-20-SS HW11003	Surface soil sample (0 to 2 feet) collected on-site, from SE corner of site, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-21-SS HW11004	Surface soil sample (0 to 2 feet) collected off-site, from contiguous residential property, within 200 feet of residential structure, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-22-SS HW11005	Surface soil sample (0 to 2 feet) collected on-site, from between fire pond and Lee Branch, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-23-SS HW11006	Surface soil sample (0 to 2 feet) collected off-site, from contiguous residential property, within 200 feet of residential structure, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-24-SS HW11007	Surface soil sample (0 to 2 feet) collected on-site, from between Lee Branch and residential property, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / QA/QC	STA-24-DUP HW11008	Surface soil sample duplicate of STA-24-SS (HW11007).

SAMPLE MEDIA / SAMPLE TYPE	STATION NO. SAMPLE NO.	SAMPLE DESCRIPTION AND OBJECTIVE
Surface Soil / Release & Source Characterization	STA-25-SS HW11009	Surface soil sample (0 to 2 feet) collected off-site, from contiguous residential property, within 200 feet of residential structure, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-26-SS HW11010	Surface soil sample (0 to 2 feet) collected on-site, from near NE corner of fire pond, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Subsurface Soil / Source Characterization	STA-26-SUB UNABLE TO COLLECT	Subsurface soil sample (> 2 feet) collected on-site, from same location as STA-26-SS (HW11010), to determine whether hazardous substances at least partially attributable to the site are present at this location. *Hand auger refusal above 2 feet precluded sample collection.
Surface Soil / Release & Source Characterization	STA-27-SS HW11012	Surface soil sample (0 to 2 feet) collected on-site, from small wooded area immediately east of fire pond, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Subsurface Soil / Source Characterization	STA-27-SUB HW11013	Subsurface soil sample (> 2 feet) collected on-site, from same location as STA-27-SS (HW11012), to determine whether hazardous substances at least partially attributable to the site are present at this location.
Waste Liquid / Source Characterization	STA-28-WL HW11014	Waste liquid sample collected on-site, from sump near Fourth Avenue, to determine whether hazardous substances attributable to the site are present at this location (*Not originally proposed).
Surface Soil / Release & Source Characterization	STA-29-SS HW11011	Surface soil sample (0 to 2 feet) collect on-site, from near NE corner of fire pond, to determine whether hazardous substances at least partially attributable to the site are present at this location (*Not originally proposed).

Station No.	STA-28-WL	STA-16-WS	STA-15-WL	STA-14-WL
HW Log No.	HW11014	HW10998	HW10997	HW10996
Lab Sample ID	AG87213	AG87200	AG87212	AG87211
Waste Type	Waste Liquid	Waste Solid	Waste Liquid	Waste Liquid
Sample Type	Source	Source	Source	Source
Sample Location	On-Site	On-Site	On-Site	On-Site

Detected Analyte	Concentration (mg/l)	Concentration (mg/kg)	Concentration (mg/l)	Concentration (mg/l)
<i>Volatile Organics</i>				
p-Isopropyltoluene	0.084	NAF	210	0.025
Styrene	0.32	NAF	160	0.0068
<i>Semi Volatiles</i>				
Benzoic Acid	0.29	NAF	ND	ND
Bis(2-Ethylhexyl)phthalate	0.11	NAF	ND	0.066
Phenol	0.9	NAF	64	0.065
<i>Metals</i>				
Aluminum	ND	1900	6.1	0.28
Antimony	ND	ND	0.18	ND
Arsenic	ND	ND	ND	0.011
Barium	ND	3200	ND	ND
Beryllium	ND	23000	ND	ND
Cadmium	ND	9.3	ND	ND
Calcium	12	23000	420	9.5
Chromium	0.018	180	0.037	0.015
Cobalt	ND	160	ND	ND
Copper	0.039	19	0.13	0.26
Iron	1.3	2200	26	0.89
Lead	0.004	3300	0.0093	0.0031
Manganese	0.022	66	0.51	0.026
Magnesium	ND	1100	ND	ND
Mercury	ND	0.0045	ND	ND
Nickel	ND	4.3	ND	ND
Potassium	7	1100	660	17
Selenium	ND	ND	ND	0.052
Sodium	43	780	110	540
Vanadium	ND	19	ND	ND
Zinc	0.13	51000	0.5	0.088

- Notes:
1. ND = Not Detected (above reporting limit).
 2. NAF = Not Analyzed For.
 3. Samples Collected April 19, 2010.

TABLE 2: Waste Analytical Results (Refs. 73 & 74)

Station No.	STA-17-SS	STA-18-SS	STA-19-SS	STA-20-SS	STA-21-SS	STA-22-SS	STA-23-SS	STA-24-SS	STA-24-DUP	STA-25-SS	STA-26-SS	STA-27-SS	STA-29-SS	U.S. EPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites (May 2010 Update)	
HW Log No.	HW10999	HW11001	HW11002	HW11003	HW11004	HW11005	HW11006	HW11007	HW11008	HW11009	HW11010	HW11012	HW110011		
Lab Sample ID	AG87316	AG87204	AG87205	AG87206	AG87320	AG87313	AG87321	AG87314	AG87315	AG87322	AG87318	AG87311	AG87319		
Sample Type	Background	Release & Source	Release & Source	Release & Source	Release	Release & Source	Release	Release & Source	Release & Source	Release	Release & Source	Release & Source	Release & Source		
Sample Location	Off-Site Granger Park	On-Site	On-Site	On-Site	Off-Site Residence	On-Site	Off-Site Residence	On-Site	On-Site	Off-Site Residence	On-Site	On-Site	On-Site		
														Residential	Industrial

Detected Analyte	Concentration (mg/kg)														
Volatile Organics															
Acetone	ND (< 0.11)	ND	0.21	0.21	ND	0.18	0.13	0.19	0.12	0.15	0.15	0.22	ND	61000	630000
Semi Volatiles															
Benzo[a]anthracene	ND (< 1.19)	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15	2.1
Benzo[a]pyrene	ND (< 1.19)	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.015	0.21
Benzo[b]fluoranthene	ND (< 1.19)	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15	2.1
Bis(2-Ethylhexyl)phthalate	ND (< 1.19)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9	ND	35	120
Chrysene	ND (< 1.19)	ND	ND	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	15	210
Fluoranthene	ND (< 1.19)	ND	ND	3.7	ND	ND	ND	ND	ND	ND	ND	1.3	ND	2300	22000
Phenanthrene	ND (< 1.19)	ND	ND	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	DNE	DNE
Pyrene	ND (< 1.19)	ND	ND	2.7	ND	ND	ND	ND	ND	ND	ND	1.3	ND	1700	17000
Metals															
Aluminum	42000	23000	15000	11000	4100	19000	13000	24000	19000	16000	21000	20000	21000	77000	990000
Arsenic	ND (< 8)	ND	ND	ND	ND	14	ND	ND	ND	11	15	24	ND	0.39	1.6
Barium	80	110	71	71	34	100	67	ND	ND	170	220	260	410	15000	190000
Beryllium	0.63	0.92	0.76	0.63	ND	0.66	0.56	ND	ND	0.58	0.97	0.66	0.94	160	2000
Cadmium	ND (< 5)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.53	ND	70	80
Calcium	ND (< 500)	ND	2100	890	610	ND	930	ND	ND	2200	14000	3500	14000	DNE	DNE
Chromium	48	37	20	17	14	37	38	42	44	33	55	49	150	DNE	DNE
Cobalt	11	21	9.1	6.7	ND	12	9.3	ND	ND	9.4	18	11	20	23	300
Copper	16	18	17	9.8	6.6	17	20	29	25	270	19	56	40	3100	41000
Iron	52000	39000	30000	21000	9700	36000	3100	59000	58000	37000	54000	32000	32000	55000	720000
Lead	9.1	24	37	67	13	26	38	ND	ND	190	21	110	11	400	800
Magnesium	620	750	820	ND	ND	1300	710	ND	ND	ND	820	1800	6900	DNE	DNE
Manganese	280	1900	510	370	150	420	420	580	490	600	840	440	370	1800	23000
Nickel	11	8.3	6.8	ND	ND	6.7	7.4	ND	ND	8.9	15	20	47	DNE	DNE
Potassium	600	670	580	ND	ND	1200	660	ND	ND	ND	620	1200	4500	DNE	DNE
Vanadium	140	93	76	56	27	94	80	170	180	88	130	64	75	390	5200
Zinc	20	33	87	130	41	51	81	39	34	270	57	350	63	23000	310000
Pesticides															
4,4-DDE	ND (< 0.0036)	ND	ND	ND	ND	ND	ND	ND	0.013	ND	ND	ND	ND	1.4	5.1
4,4-DDT	ND (< 0.0078)	ND	ND	0.35	ND	ND	ND	ND	ND	ND	ND	ND	0.012	1.7	7.0
Aldrin	ND (< 0.0042)	ND	ND	0.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.029	0.1
Dieldrin	ND (< 0.0024)	ND	0.01	ND	ND	ND	0.0042	ND	ND	ND	ND	0.087	ND	0.03	0.11
Dursban (Chlorpyrifos)	ND (< 0.0060)	ND	ND	ND	ND	ND	ND	ND	ND	0.012	ND	ND	ND	180	1800

- Notes:
1. ND = Not Detected (above reporting limit).
 2. DNE = Does Not Exist (or has not been established).
 3. Value after "<" (e.g., < 9) indicates reporting limit for a specific analyte that was not detected in background sample.
 4. Shading indicates an analyte whose concentration exceeds 3x background or exceeds the reporting limit of background when not detected in background.
 5. **Bold** = Concentration of analyte exceeds a U.S. EPA Regional Screening Level (either residential or industrial) for Chemical Contaminants at Superfund Sites (May 2010 Update)....
 6. Samples Collected April 19 and 20, 2010.

TABLE 3: Surface Soil Analytical Results (0 – 2 Feet Below Ground Surface), (Refs. 73, 74 & 75)

Station No.	STA-17-SUB	STA-27-SUB	U.S. EPA Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites (May 2010 Update)	
HW Log No.	HW11000	HW11013		
Lab Sample ID	AG87317	AG87312		
Sample Type	Background	Source Characterization		
Sample Location	Off-Site (Granger Park)	On-Site	Residential	Industrial

Detected Analyte	Concentration (mg/kg)			
<i>Metals</i>				
Aluminum	81000	38000	77000	990000
Barium	ND (< 200)	220	15000	190000
Chromium	100	130	DNE	DNE
Cobalt	65	ND	23	300
Iron	85000	88000	55000	720000
Manganese	940	490	1800	23000
Vanadium	300	260	390	5200
Zinc	22	75	23000	310000
<i>Pesticides</i>				
4,4-DDE	ND (< 0.0041)	0.0093	1.4	5.1
Dieldrin	ND (< 0.0027)	0.008	0.03	0.11

Notes:

1. ND = Not Detected (above reporting limit).
2. DNE = Does Not Exist (or has not been established).
3. Value after "<" (e.g., < 9) indicates reporting limit for a specific analyte that was not detected in background sample.
4. Shading indicates an analyte whose concentration exceeds 3x background or exceeds the reporting limit of background when not detected in background.
5. **Bold** = Concentration of analyte exceeds a U.S. EPA Regional Screening Level (either residential or industrial) for Chemical Contaminants at Superfund Sites.
6. Samples Collected April 20, 2010.

**TABLE 4: Subsurface Soil Analytical Results (> 2 Feet Below Ground Surface),
(Refs. 73, 74 & 75)**

**Milliken & Company
Hillside Plant
LaGrange, Troup County**

LAT 33° 01' 22"N / LONG 85° 03' 00"W

RAD	Population		Households		Households		Households		Population		Population	
	Ring	Total	Ring	Total	Domestic Well	Public Water	Domestic Well	Public Water	Domestic Well	Public Water	Domestic Well	Public Water
	Ring	Total	Ring	Total	Ring	Total	Ring	Total	Ring	Total	Ring	Total
0.25	476	476	173	173	0	0	172	172	1	1	475	475
0.50	1027	1503	391	564	4	4	387	559	9	10	1018	1493
1.00	3152	4655	1205	1769	24	28	1181	1741	58	68	3093	4586
2.00	8676	13331	3221	4989	99	127	3122	4863	266	334	8410	12997
3.00	8675	22006	3332	8321	176	302	3156	8019	485	819	8191	21187
4.00	5774	27780	2114	10435	240	542	1874	9893	685	1504	5089	26276

Source: Census of Population and Housing, 1990: Summary Tape File 3 on CD-ROM Georgia [machine-readable data files] / prepared by the Bureau of the Census. -Washington: The Bureau [producer and distributor], 1992.

Note: On September 1, 2010, the GA EPD conducted a well survey to confirm whether any individuals obtain drinking water from domestic wells located within one half (½) mile of the site reference point. At the time of the September 2010 well survey, no evidence was obtained suggesting that any individuals obtain drinking water from domestic wells located within one half (½) mile of the site reference point. Accordingly, for the purposes of this SI, no domestic wells utilized for drinking water purposes are considered to be located within one half (½) mile of the site reference point (despite 1990 census data indicating otherwise).

TABLE 5: Number of Domestic Wells & Population on Domestic Wells Per Concentric Distance Category (Refs. 55 & 76)

Blue John Creek (Troup County, tributary to Long Cane Creek)

Location	(1) Miles above mouth	(1) Drainage Area (sq-mi)	(1) 7Q10	(2)	Average Annual Flow
Ga Hwy 219-285	4.58	3.6		5	
WPCP (per 1989 report)	3.56	7.1		9	
WPCP (per 1989 report)	3.16	8.5		11	
Road 138-285	2.96	9.2		12	
at incoming tributary	0.24	14.2		19	
Mouth (confluence w/ Long Cane Cr)	0	21.5		29	

Long Cane Creek (Troup County, trib to Chattahoochee R.)

Location	(1) Miles above mouth	(1) Drainage Area (sq-mi)	(1) 7Q10	(2)	Average Annual Flow
Interstate 85	14.35	32.9	3.1	44	
Above Blue John Cr	13.86	33.8		45	
Below Blue John Cr	13.86	55.3		73	
Road 098-285	8.95	66.4		88	
Road 413-285	5.55	73.9		98	
Road 069-285	3.92	76.8		102	
Ga hwy 18-285	2.51	79.3		105	
Interstate 85	2.19	79.9		106	
Troup - Harris County Line	1.84	80.5		107	
Road 029-145	1.42	81.2		108	
Mouth (confluence with Chattahoochee)	0	83.8	9.6	111	

(1)-- USGS, Water Resources Investigation 89-4056,
Low-flow profiles of the upper Chattahoochee River and tributaries, 1989,
by: R.F. Carter, E.H. Hopkins, and H.A. Perlman, pgs 142-143

(2)--GaDNR Hydrologic Atlas 9, 1983,
Average annual rainfall and runoff in Georgia 1941-70,
R.F. Carter and H.R. Stiles

Average Runoff in SW Troup County is 18 inches

Table 6: Estimated Average Annual Flow Rates of Blue John Creek & Long Cane Creek (Ref. 58)

COMMON NAME	SCIENTIFIC NAME	FEDERAL LEGAL STATUS	STATE LEGAL STATUS	HABITAT (AQUATIC AND/OR TERRESTRIAL)
Bird Species				
Bald Eagle (a.k.a. American Eagle)	<i>Haliaeetus leucocephalus</i>	None	Threatened	Aquatic and Terrestrial
Fish Species				
Bluestripe Shiner	<i>Cyprinella callitaenia</i>	None	Rare	Aquatic
Highscale Shiner	<i>Notropis hypsilepis</i>	None	Rare	Aquatic
Mammal Species				
Florida Panther (a.k.a. Mountain Lion)	<i>Puma concolor coryi</i>	Endangered	Endangered	Terrestrial
Plant Species				
Bay Star-Vine (a.k.a. Climbing Magnolia, Wild Sarsaparilla)	<i>Schisandra glabra</i>	None	Threatened	Terrestrial

a.k.a. = also known as

TABLE 7: Protected Species Reported to Occur in Troup County, Georgia (Refs. 77, 78 & 79)

TABLE 8 – Phase I of II Sample Collection (Refs 72. & 80)
Site Inspection – Milliken & Company
March 15, 2010

SAMPLE MEDIA / SAMPLE TYPE	STATION NO. SAMPLE NO.	SAMPLE DESCRIPTION AND OBJECTIVE
Surface Water / Release (Perennial)	STA-01-SW HW10966	Surface water sample collected off-site, from Blue John Creek, approximately 8 feet upstream of old unused bridge, to determine whether hazardous substances at least partially attributable to the site are present at this location (an aquatic sensitive environment).
Sediment / Release (Perennial)	STA-01-SED HW10967	Sediment sample collected off-site, from Blue John Creek, from the same location as STA-01-SW (HW10966), to determine whether hazardous substances at least partially attributable to the site are present in at this location (an aquatic sensitive environment).
Surface Water / Release (Perennial)	STA-02-SW HW10968	Surface water sample collected off-site, from Blue John Creek, approximately 560 feet downstream of the Probable Point of Entry, to determine whether hazardous substances at least partially attributable to the site are present at this location (an aquatic sensitive environment).
Sediment / Release (Perennial)	STA-02-SED HW10969	Sediment sample collected off-site, from Blue John Creek, from the same location as STA-02-SW (HW10968), to determine whether hazardous substances at least partially attributable to the site are present at this location (an aquatic sensitive environment).
Surface Water / QA/QC (Perennial)	STA-02-DUP HW10970	Surface water sample duplicate of STA-02-SW (HW10968)
Sediment / QA/QC (Perennial)	STA-02-DUP HW10971	Sediment sample duplicate of STA-02-SED (HW10969)
Surface Water / Background (Perennial)	STA-03-SW HW10972	Surface water sample collected off-site, from Blue John Creek, approximately 40 feet upstream of the Probable Point of Entry, to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.
Sediment / Background (Perennial)	STA-03-SED HW10973	Sediment sample collected off-site, from Blue John Creek, from the same location as STA-03-SW (HW10972), to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.

SAMPLE MEDIA / SAMPLE TYPE	STATION NO. SAMPLE NO.	SAMPLE DESCRIPTION AND OBJECTIVE
Surface Water / Attribution (Intermittent)	STA-04-SW HW10974	Surface water sample collected off-site, from Atlanta Branch, approximately 40 feet upstream of railroad culvert, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Sediment / Attribution (Intermittent)	STA-04-SED HW10975	Sediment sample collected off-site, from Atlanta Branch, from the same location as STA-04-SW (HW10974), to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Water / Attribution (Intermittent)	STA-05-SW HW10976	Surface water sample collected off-site, from Troup Branch, approximately 6 feet upstream of its confluence with Atlanta Branch, to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.
Sediment / Attribution (Intermittent)	STA-05-SED HW10977	Sediment sample collected off-site, from Troup Branch, from the same location as STA-05-SW (HW10976), to determine whether hazardous substances <u>not</u> attributable to the site are at this location.
Surface Water / Attribution (Intermittent)	STA-06-SW HW10978	Surface water sample collected off-site, from Atlanta Branch, approximately 30 feet upstream of its confluence with Lee Branch, to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.
Sediment / Attribution (Intermittent)	STA-06-SED HW10979	Sediment sample collected off-site, from Atlanta Branch, from the same location as STA-06-SW (HW10978), to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.
Surface Water / Attribution (Intermittent)	STA-07-SW HW10980	Surface water sample collected off-site, from Park Branch, approximately 40 feet upstream of its confluence with Lee Branch, to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.
Sediment / Attribution (Intermittent)	STA-07-SED HW10981	Sediment sample collected off-site, from Park Branch, from the same location as STA-07-SW (HW10980), to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.
Surface Water / Attribution (Intermittent)	STA-08-SW HW10982	Surface water sample collected off-site, from Lee Branch, approximately 80 feet upstream from 4 pipe culverts, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Sediment / Attribution (Intermittent)	STA-08-SED HW10983	Sediment sample collected off-site, from Lee Branch, from the same location as STA-08-SW (HW10982) to determine whether hazardous substances at least partially attributable to the site are present at this location.

SAMPLE MEDIA / SAMPLE TYPE	STATION NO. SAMPLE NO.	SAMPLE DESCRIPTION AND OBJECTIVE
Surface Water / Attribution (Intermittent)	STA-09-SW HW10984	Surface water sample collected on-site, from Lee Branch, approximately 12 feet upstream of the Fourth Street culvert, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Sediment / Attribution (Intermittent)	STA-09-SED HW10985	Sediment sample collected on-site, from Lee Branch, from the same location as STA-09-SW (HW10984), to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Water / Attribution (Intermittent)	STA-10-SW HW10986	Surface water sample collected off-site, from Lee Branch, approximately 6 feet upstream of the Brownwood Avenue culvert, to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.
Sediment / Attribution (Intermittent)	STA-10-SED HW10987	Sediment sample collected off-site, from Lee Branch, from the same location as STA-10-SW (HW10986), to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.

Station No.	STA-03-SW	STA-02-DUP	STA-02-SW	STA-01-SW	U.S. EPA Region 4 Waste Management Division Freshwater Surface Water Screening Values for Hazardous Waste Sites (November 2001 Update).	
HW Log No.	HW10972	HW10970	HW10968	HW10966		
Lab Sample ID	AG84695	AG84694	AG84693	AG84692		
Surface Water Body	Blue John Creek	Blue John Creek	Blue John Creek	Blue John Creek		
Surface Water Type	Perennial Stream	Perennial Stream	Perennial Stream	Perennial Stream		
Sample Type	Background	Release	Release	Release		
Sample Location	Off-Site	Off-Site	Off-Site	Off-Site		
Sample Located Within TDL?	No	Yes	Yes	Yes		
					Acute	Chronic

Detected Analyte	Concentration (mg/l)					
Aluminum	0.78	0.78	0.79	0.61	0.75	0.087
Calcium	9.2	11	11	11	DNE	DNE
Iron	0.98	0.91	0.87	0.95	DNE	1.0
Manganese	0.16	0.16	0.18	0.14	DNE	DNE
Sodium	5.3	5.7	5.5	5.4	DNE	DNE
Zinc	ND (< 0.02)	ND	ND	0.024	0.065	0.059

Notes:

1. TDL = Target Distance Limit (the migration route that site generated run-off would follow from the point it enters a perennial surface water body to a point 15 miles downstream).
2. ND = Not Detected (above reporting limit).
3. DNE = Does Not Exist (or has not been established).
4. Value after "<" (e.g., < 9) indicates reporting limit for a specific analyte that was not detected in background sample.
5. Shading indicates an analyte whose concentration exceeds 3x background or exceeds the reporting limit of background when not detected in background.
6. **Bold** = Concentration of analyte exceeds U.S. EPA Region 4 Waste Management Division Freshwater Surface Water Screening Value for Hazardous Waste Sites (either acute or chronic).
7. Samples Collected March 15, 2010.

**TABLE 9: Stream Surface Water Analytical Results (Target Distance Limit),
(Refs. 80, 81 & 82)**

Station No.	STA-03-SED	STA-02-DUP	STA-02-SED	STA-01-SED	U.S. EPA Region 4 Waste Management Division Sediment Screening Values for Hazardous Waste Sites (Nov. 2001 Update)
HW Log No.	HW10973	HW10971	HW10969	HW10967	
Lab Sample ID	AG84682	AG84681	AG84680	AG84679	
Surface Water Body	Blue John Creek	Blue John Creek	Blue John Creek	Blue John Creek	
Surface Water Type	Perennial Stream	Perennial Stream	Perennial Stream	Perennial Stream	
Sample Type	Background	Release	Release	Release	
Sample Location	Off-Site	Off-Site	Off-Site	Off-Site	
Sample Located Within TDL?	No	Yes	Yes	Yes	

Detected Analyte	Concentration (mg/kg)				
<i>Metals</i>					
Aluminum	1300	1400	2000	1000	DNE
Barium	ND (< 20)	ND	30	ND	DNE
Chromium	6.3	6.8	12	8.3	52.3
Iron	3100	4700	5200	3400	DNE
Lead	ND (< 9)	15	ND	ND	30.2
Manganese	75	100	100	90	DNE
Vanadium	8.3	11	14	11	DNE
Zinc	9.5	13	13	10	124
<i>Pesticides</i>					
Dieldrin	ND (< 0.0026)	0.0036	ND	ND	0.0033

Notes:

1. TDL = Target Distance Limit (the migration route that site generated run-off would follow from the point it enters a perennial surface water body to a point 15 miles downstream).
2. ND = Not Detected (above reporting limit).
3. DNE = Does Not Exist (or has not been established).
4. Value after "<" (e.g., < 9) indicates reporting limit for a specific analyte that was not detected in background sample.
5. Shading indicates an analyte whose concentration exceeds 3x background or exceeds the reporting limit of background when not detected in background.
6. **Bold** = Concentration of analyte exceeds the U.S. EPA Region 4 Waste Management Division Sediment Screening Value for Hazardous Waste Sites.
7. Samples Collected March 15, 2010.

**TABLE 10: Stream Sediment Analytical Results (Target Distance Limit),
(Refs 80, 81 & 83)**

Station No.	STA-10-SW	STA-09-SW	STA-08-SW	STA-07-SW	STA-06-SW	STA-05-SW	STA-04-SW	U.S. EPA Region 4 Waste Management Division Freshwater Surface Water Screening Values for Hazardous Waste Sites (November 2001 Update)	
HW Log No.	HW10986	HW10984	HW10982	HW10980	HW10978	HW10976	HW10974		
Lab Sample ID	AG84702	AG84701	AG84700	AG84699	AG84698	AG84697	AG84696		
Surface Water Body	Lee Branch	Lee Branch	Lee Branch	Park Branch	Atlanta Branch	Troup Branch	Atlanta Branch		
Surface Water Type	Intermittent Stream	Intermittent Stream	Intermittent Stream	Intermittent Stream	Intermittent Stream	Intermittent Stream	Intermittent Stream		
Sample Type	Background	Attribution	Attribution	Attribution	Attribution	Attribution	Attribution		
Sample Location	Off-Site	On-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site		
Sample Located Within OROR?	No	Yes	Yes	No	No	No	Yes	Acute	Chronic

Detected Analyte	Concentration (mg/l)								
Aluminum	0.34	0.49	0.7	0.44	0.77	0.57	0.37	0.75	0.087
Calcium	8.2	9	11	11	12	5.7	10	DNE	DNE
Iron	1.6	1.2	1.7	0.92	1.3	0.54	0.62	DNE	1.0
Manganese	0.37	0.28	0.29	0.25	0.16	0.21	0.19	DNE	DNE
Sodium	ND (< 5)	6	6.6	5.8	6	ND	5.6	DNE	DNE
Zinc	ND (< 0.02)	0.023	0.028	ND	0.022	ND	0.024	0.065	0.059

- Notes:
1. OROR = Overland Run-Off Route (the migration route that site generated run-off would follow from a particular on-site source of a hazard substance to a perennial surface water body).
 2. ND = Not Detected (above reporting limit).
 3. DNE = Does Not Exist (or has not been established).
 4. Value after "<" (e.g., < 9) indicates reporting limit for a specific analyte that was not detected in background sample.
 5. Shading indicates an analyte whose concentration exceeds 3x background or exceeds the reporting limit of background when not detected in background.
 6. **Bold** = Concentration of analyte exceeds U.S. EPA Region 4 Waste Management Division Freshwater Surface Water Screening Value for Hazardous Waste Sites (either acute or chronic).
 7. Samples Collected March 15, 2010.

TABLE 11: Stream Surface Water Analytical Results (Overland Run-Off Route), (Refs. 80, 81 & 82)

Station No.	STA-10-SED	STA-09-SED	STA-08-SED	STA-07-SED	STA-06-SED	STA-05-SED	STA-04-SED	U.S. EPA Region 4 Waste Management Division Sediment Screening Values for Hazardous Waste Sites (November 2001 Update)
HW Log No.	HW10987	HW10985	HW10983	HW10981	HW10979	HW10977	HW10975	
Lab Sample ID	AG84689	AG84688	AG84687	AG84686	AG84685	AG84684	AG84683	
Surface Water Body	Lee Branch	Lee Branch	Lee Branch	Park Branch	Atlanta Branch	Troup Branch	Atlanta Branch	
Surface Water Type	Intermittent Stream	Intermittent Stream	Intermittent Stream	Intermittent Stream	Intermittent Stream	Intermittent Stream	Intermittent Stream	
Sample Type	Background	Attribution	Attribution	Attribution	Attribution	Attribution	Attribution	
Sample Location	Off-Site	On-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	
Sample Located Within OROR?	No	Yes	Yes	No	No	No	Yes	

Detected Analyte	Concentration (mg/kg)							
<i>Metals</i>								
Aluminum	1300	2900	4400	1600	6300	8000	2100	DNE
Barium	ND (< 20)	36	52	31	58	140	44	DNE
Cadmium	ND (< 0.5)	0.58	ND	ND	0.78	0.59	ND	1.0
Calcium	ND (< 500)	ND	540	ND	ND	ND	ND	DNE
Chromium	4.8	27	16	15	24	28	13	52.3
Cobalt	ND (< 5)	ND	ND	6	8	8.6	ND	DNE
Copper	ND (< 2.5)	5.7	7.6	6.7	10	4.7	2.7	18.7
Iron	3700	24000	14000	7200	38000	30000	9300	DNE
Lead	ND (< 9)	ND	16	ND	24	ND	130	30.2
Magnesium	ND (< 500)	ND	580	ND	ND	700	ND	DNE
Manganese	56	250	150	110	390	250	160	DNE
Nickel	ND (< 4)	4.2	ND	10	ND	4.4	ND	15.9
Selenium	ND (< 19)	ND	ND	ND	21	20	ND	DNE
Vanadium	10	59	42	22	120	92	27	DNE
Zinc	11	52	40	23	40	18	24	124
<i>Pesticides</i>								
4,4-DDT	0.014	ND	ND	ND	ND	ND	ND	0.0033

- Notes:
- OROR = Overland Run-Off Route (the migration route that site generated run-off would follow from a particular on-site source of a hazard substance to a perennial surface water body).
 - ND = Not Detected (above reporting limit).
 - DNE = Does Not Exist (or has not been established).
 - Value after “<” (e.g., < 9) indicates reporting limit for a specific analyte that was not detected in background sample.
 - Shading indicates an analyte whose concentration exceeds 3x background or exceeds the reporting limit of background when not detected in background.
 - Bold** = Concentration of analyte exceeds the U.S. EPA Region 4 Waste Management Division Sediment Screening Value for Hazardous Waste Sites.
 - Samples Collected March 15, 2010.

TABLE 12: Stream Sediment Analytical Results (Overland Run-Off Route), (Refs. 80, 81 & 83)

Station No.	STA-13-SW	STA-12-SW	STA-11-SW	U.S. EPA Region 4 Waste Management Division Freshwater Surface Water Screening Values for Hazardous Waste Sites (November 2001 Update)	
HW Log No.	HW10994	HW10992	HW10990		
Lab Sample ID	AG87208	AG87209	AG87210		
Surface Water Body	Granger Park Pond	Fire Pond	Fire Pond		
Surface Water Type	Perennial Pond	Perennial Pond	Perennial Pond		
Sample Type	Background	Release	Release		
Sample Location	Off-Site	On-Site	On-Site		
Sample Located Within TDL	No	Yes	Yes		
				Acute	Chronic

Detected Analyte	Concentration (mg/l)				
Metals					
Aluminum	3.4	0.94	1.0	0.75	0.087
Calcium	18	11	11	DNE	DNE
Iron	6.7	1.1	1.2	DNE	1.0
Magnesium	7.1	ND	ND	DNE	DNE
Manganese	3.1	0.25	0.2	DNE	DNE
Sodium	9.8	9	9.2	DNE	DNE
Zinc	0.063	ND	ND	0.065	0.059

Notes:

1. TDL = Target Distance Limit (the migration route that site generated run-off would follow from the point it enters a perennial surface water body to a point 15 miles downstream).
2. ND = Not Detected (above reporting limit).
3. DNE = Does Not Exist (or has not been established).
4. Value after "<" (e.g., < 9) indicates reporting limit for a specific analyte that was not detected in background sample.
5. Shading indicates an analyte whose concentration exceeds 3x background or exceeds the reporting limit of background when not detected in background (none indicated).
6. **Bold** = Concentration of analyte exceeds U.S. EPA Region 4 Waste Management Division Freshwater Surface Water Screening Value for Hazardous Waste Sites (either acute or chronic).
7. Samples Collected April 19, 2010.

**TABLE 13: Fire Pond Surface Water Analytical Results (Target Distance Limit),
(Refs. 73, 74 & 82)**

Station No.	STA-13-SED	STA-12-SED	STA-11-SED	U.S. EPA Region 4 Waste Management Division Sediment Screening Values for Hazardous Waste Sites (November 2001 Update)
HW Log No.	HW10995	HW10993	HW10991	
Lab Sample ID	AG87201	AG87202	AG87203	
Surface Water Body	Granger Park Pond	Fire Pond	Fire Pond	
Surface Water Type	Perennial Pond	Perennial Pond	Perennial Pond	
Sample Type	Background	Release	Release	
Sample Location	Off-Site	On-Site	On-Site	
Sample Located Within TDL?	No	Yes	Yes	

Detected Analyte	Concentration (mg/kg)			
Volatile Organics				
p-Isopropyltoluene	ND (< 0.0076)	ND	0.03	DNE
Semi Volatiles				
Benzo[a]pyrene	ND (< 1.62)	ND	2.6	0.33
Benzo[b]fluoranthene	ND (< 1.62)	ND	2.9	DNE
Fluoranthene	ND (< 1.62)	ND	3.5	0.33
Indeno[1,2,3-cd]pyrene	ND (< 1.62)	ND	2.6	DNE
Pyrene	ND (< 1.62)	ND	3.0	0.33
Metals				
Aluminum	37000	8800	21000	DNE
Barium	ND (< 200)	52	140	DNE
Beryllium	ND (< 5)	ND	0.92	DNE
Calcium	ND (< 5000)	1300	2400	DNE
Chromium	82	30	34	52.3
Cobalt	ND (< 50)	8	14	DNE
Copper	30	140	82	18.7
Iron	59000	15000	39000	DNE
Lead	ND (< 90)	31	72	30.2
Magnesium	ND (< 5000)	ND	1200	DNE
Manganese	500	130	370	DNE
Nickel	ND (< 40)	7.9	18	15.9
Vanadium	220	61	100	DNE
Zinc	58	82	230	124
Pesticides				
4,4'-DDT	ND (< 0.011)	ND	0.074	0.0033
Dieldrin	ND (< 0.0033)	ND	0.035	0.0033

- Notes:
1. TDL = Target Distance Limit (the migration route that site generated run-off would follow from the point it enters a perennial surface water body to a point 15 miles downstream).
 2. ND = Not Detected (above reporting limit).
 3. DNE = Does Not Exist (or has not been established).
 4. Value after "<" (e.g., < 9) indicates reporting limit for a specific analyte that was not detected in background sample.
 5. **Shading** indicates an analyte whose concentration exceeds 3x background or exceeds the reporting limit of background when not detected in background.
 6. **Bold** = Concentration of analyte exceeds the U.S. EPA Region 4 Waste Management Division Sediment Screening Value for Hazardous Waste Sites.
 7. Samples Collected April 19, 2010.

**TABLE 14: Fire Pond Sediment Analytical Results (Target Distance Limit),
(Refs. 73, 74 & 83)**

**Milliken & Company
Hillside Plant
LaGrange, Troup County**

LAT 33° 01' 22"N / LONG 85° 03' 00"W

Population			Households	
Rad	Ring	Total	Ring	Total
.25	454	454	158	158
.5	1214	1668	409	567
1	2921	4589	1026	1593
2	8171	12760	3203	4796
3	9413	22173	3800	8597
4	6973	29146	2596	11193

Source: Census of Population and Housing, 2000: Summary Tape File 3 on CD-ROM Georgia [machine-readable data files] / prepared by the Bureau of the Census. -Washington: The Bureau [producer and distributor], 2002.

TABLE 15: Number of Individuals Per Concentric Distance Category (Ref. 56)

APPENDIX A

Georgia Department of Natural Resources

2 Martin Luther King, Jr. Drive, SE, Suite 1154, Atlanta, Georgia 30334

Noel Holcomb, Commissioner
Environmental Protection Division
Carol A. Couch, Ph.D., Director
404/656-2833

August 10, 2007

TRIP REPORT

SITE NAME & LOCATION:

Milliken & Company – Hillside Mill
1300 Brownwood Avenue
LaGrange, Troupe County, Georgia

TRIP BY:

Andrew S. Taft *AST*
Environmental Specialist
GA Environmental Protection Division
Hazardous Waste Management Branch
Facilities Compliance Program

DATE OF TRIP:

July 19, 2007

OFFICIALS CONTACTED:

Kent Bennett
Plant Manager
Milliken & Company – Hillside Plant

Russ Bethea
Maintenance Manager
Milliken & Company – Hillside Plant

Michael Clement
Engineering Services Manager
Milliken & Company – Hillside Plant

Mark Moe
Senior Environmental Chemist
Milliken & Company – Valway Plant

REFERENCE:

Site Reconnaissance
Preliminary Assessment (PA)

PURPOSE:

The purpose of the site reconnaissance was to collect certain information necessary to complete a Preliminary Assessment (PA) in accordance with the document titled: *Guidance for Performing Preliminary Assessments Under CERCLA*, United States Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, DC 20460, EPA/540/G-91/013, September 1991.

DRIVING DIRECTIONS FROM ATLANTA:

- Take Interstate 85 South to Exit 14 at U.S. Highway 27;
- Turn right onto U.S. Highway 27 – proceed approx. ½ mile to South Davis Road;
- Turn left onto South Davis Road – proceed approx. ½ mile to Whitesville Road;
- Turn right onto Whitesville Road – proceed approx. ½ mile to Lukken Industrial Drive;
- Turn left onto Lukken Industrial Drive – proceed approx. 1 mile to Troup Street;
- Turn right onto Troup Street – proceed approx. ¾ mile to Brownwood Avenue; and
- Turn right onto Brownwood Avenue – proceed several blocks to 1300 Brownwood Avenue.

COMMENTS:

The following comments serve to document areas visited, interviews conducted and observations noted during the July 19, 2007 Site Reconnaissance:

1. A sign on the south side of Brownwood Avenue (1300 block) designates the location of plant offices (see Attachment A: Photo 1 of 8).
2. Surrounded by private residences of the Hillside Community, the site is bounded to the north by Brownwood Avenue, bounded to the east by Lincoln Street, bounded to the south by Fourth Avenue and bounded to the west by the backyards of private residences located on Grant, Palm and Stonewall Streets. The western boundary is the only site boundary not delineated by a street.
3. Originating just north of the site, a small un-named stream flows in a southeastern direction near the western boundary of the site (see Attachment A: Photos 2 thru 4 of 8). At the time of the reconnaissance, the stream exhibited a low flow volume. Mr. Bethea stated that approximately nine (9) years ago, the stream consisted of just a few intermittent puddles. According to Mr. Bennett, the stream drains approximately 254 acres of land located north of Brownwood Avenue. Immediately north of Brownwood Avenue (just north of the site), water observed in the stream was limited to intermittent puddles at the time of the reconnaissance (see Attachment A: Photo 8 of 8).
4. What Mr. Bethea referred to as a "Fire Pond" was observed on the western side of the site (see Attachment A: Photo 2 of 8). The elongated pond parallels the small un-named stream discussed in Comment 3 above. Mr. Bethea stated that wastewaters generated from on-site processes are discharged to the city sewer system, not the Fire Pond, and that the pond only receives surface water run-off. Mr. Bethea indicated that there is always water in the Fire Pond, and to his knowledge, the pond never dries up. During heavy rainfall, the pond drains via ancillary equipment to the un-named stream at an outfall located at the southwest corner of the site (see Attachment A: Photo 4 of 8). Mr. Bethea stated that the Fire Pond overflows every two (2) to three (3) years, however, it has not overflowed in the past one and one half (1½) years. Mr. Bennett stated that numerous turtles occupy the Fire Pond and possibly Water Moccasins. At the time of the reconnaissance, a turtle was observed in the pond.

5. The site is located on a hillside. Site topography slopes south towards the southern boundary of the site. According to Mr. Bethea, most storm water run-off exits the site at the outfall located at the southwestern corner of the site (see Comment 4 above), however, some storm water run-off exits the site at an additional outfall located at the southeastern corner of the site.
6. Mr. Bethea stated that for internal management purposes, the site is subdivided into the Hillside Plant and the Valway Plant. Mr. Moe confirmed that the Hillside Coating Operations are part of the Valway Plant. Together, both plants comprise the site.
7. At the time of the reconnaissance, a copy of a wastewater permit issued by the City of LaGrange was provided upon request (see Attachment B: Wastewater Discharge Permit No. 101). In accordance with the provisions of the City of LaGrange sewer use ordinance, the site was issued a wastewater discharge permit on April 8, 2007. The permit regulates biochemical oxygen demand, total zinc, total silver, total phenols, total suspended solids, color, oil and grease, total copper, flow and pH in wastewaters discharged to the city sewer system.
8. Mr. Bennett stated that prior to discharge to the city sewer system, wastewater generated from on-site processes (from both plants) is pH adjusted within a concrete neutralization basin (see Attachment A: Photo 5 of 8). Mr. Bethea estimated that the square concrete basin's dimensions are approximately 15 feet by 15 feet by 15 feet. At the time of the reconnaissance, two (2) equally sized smaller tanks were observed adjacent to the basin labeled: "Caustic Soda 20%" and "Acetic Acid 80%." Mr. Bennett later confirmed that the volume of the neutralization basin was 16,807 gallons and that the volume of the smaller reagent tanks were 250 gallons each (see Attachment C: July 27, 2007 Memo from Bennett Regarding Tank Volumes).
9. Mr. Bennett confirmed that point source water treatment occurs at machines that generate wastewater prior to the wastewater being conveyed to the neutralization basin. Mr. Bethea stated that, based upon the continuous pH monitoring that occurs within the neutralization basin, it has not been necessary to adjust the pH in the basin in over one and one half (1½) years. Mr. Bethea indicated that partially due to the presence of acids in yarn, it is more common to increase the pH of wastewater in the basin by the addition of caustic soda that it is to lower the pH of wastewater in the basin by the addition of acetic acid.
10. At the time of the reconnaissance, two (2) tanks comprising a tank farm were observed in the general vicinity of the neutralization basin (see Attachment A: Photo 6 of 8). Mr. Moe confirmed that the tanks were used to contain wastewater generated from on-site processes prior to pH adjustment within the neutralization basin. Mr. Moe indicated that wastewater within the tanks can contain zinc, formaldehyde, ammonia and latex waste, and that under certain circumstances, it is necessary to "drum-up" wastewater within the tanks for off-site disposal rather than discharge to the city sewer system. Mr. Bennett later confirmed that the capacity of each of the tanks was 12,000 gallons, for a total of 24,000 gallons (see Attachment C: July 27, 2007 Memo from Bennett Regarding Tank Volumes).

11. On a Sanborn Fire Insurance Map dated January 1920, a "Dye House" is depicted on-site (see Attachment D: January 1920 Sanborn Map for LaGrange, GA). At the time of the reconnaissance, it was determined that the Dye House depicted on the Sanborn Map no longer existed. Asphalt, concrete and part of another building now cover the approximate area where the Dye House was located. Mr. Bennett stated that dying more recently occurred within the general vicinity of the Dye House depicted in the Sanborn Map, however, it occurred at least twelve (12) years ago, within dying kettles, in a different building that was demolished sometime around the year 2000.
12. According to Mr. Bennett, operations at the Hillside Plant focus on the manufacture of carpet. Bales of nylon fiber are received, which may be dyed with acid dyes in one of two continuous dye ranges. The fiber is then spun into yarn and subsequently heated to add "memory," a process known as heatset. Finally, the yarn is tufted to a substrate before being transported to another facility for further processing. Mr. Bennett confirmed that dry cleaning operations have not been conducted on-site since he has worked at this location. Mr. Bennett stated that currently, only 5% of all yarns are dyed at this location.
13. According to Mr. Bethea, the Hillside Plant currently qualifies as a conditionally exempt generator of hazardous waste. Mr. Bethea confirmed that permits associated with the Hillside Plant include an air permit for a single boiler, a wastewater discharge permit and a storm water permit. Mr. Bethea stated that wastewaters associated with dying operations and sanitary wastes are discharged to the city sewer system, used oil is shipped off-site, non-hazardous waste associated with a single parts cleaner is picked-up four times a year and regular trash (including floor sweepings and food waste) is sent to an off-site incinerator.
14. According to Mr. Moe, the main products manufactured at the Valway Plant include industrial textiles, abrasives, lawn mower grass bags, tire ingredients and automobile safety air bags. Broad woven fabrics are finished on six finishing ranges that may include one or more chemical application pads, scouring boxes and ovens in addition to the textile handling and auxiliary equipment. The chemical application process consists of dip pans and/or coaters. The scouring boxes consist of equipment designed to clean or scour textiles with water or an aqueous based solution. Ovens are used for drying and/or heat setting.
15. Mr. Moe confirmed that the Valway Plant currently qualifies as a small quantity generator of hazardous waste, however, the Hillside Coating Operations currently qualify as a large quantity generator of hazardous waste. Mr. Moe stated that EPD representative Ms. Linda Weglewski conducted the most recent hazardous waste inspection at the Hillside Coating Operations. Mr. Moe confirmed that permits associated with the Valway Plant and Hillside Coating Operations include air permits, a wastewater discharge permit and a storm water permit. Mr. Bethea stated that the air permits are source specific, however, all on-site plants and operations share the wastewater discharge permit and storm water permit.
16. At the time of the reconnaissance, the following wastes were observed at the Valway Plant/Hillside Coating Operations:

- One (1) 55-gallon drum of latex waste labeled "Non-Hazardous Waste" within an area conspicuously designated as a Satellite Accumulation Point (SAP). Mr. Moe confirmed that a total of seven (7) such SAPs are currently in existence.
 - One (1) 5-gallon bucket of waste alkaline batteries labeled "Universal Waste."
 - Four (4) 55-gallon drums of latex waste labeled "Non-Hazardous Waste" within a designated storage area.
 - Ten (10) boxes of waste fluorescent bulbs labeled "Universal Waste" within a designated storage area.
 - Five (5) 5-gallon buckets of waste batteries and ballasts labeled "Universal Waste" within a designated storage area.
 - One (1) 55-gallon drum of broken tubes labeled "Hazardous Waste" within an area conspicuously designated as a SAP.
 - Approximately thirty (30) 55-gallon drums labeled "Hazardous Waste, D001, F003, F005, U220" within a designated storage area.
17. Mr. Moe estimated that thirty (30) to forty (40) 55-gallon drums (i.e., 10,000 to 20,000 pounds) of hazardous waste containing toluene and Methyl Ethyl Ketone (MEK) were shipped off-site per calendar month. Additionally, Mr. Moe estimated that fifty (50) to one hundred (100) 55-gallon drums (i.e., 40,000+ pounds) of combined non-hazardous waste were shipped off-site per calendar month.
18. Mr. Moe confirmed that toluene is used to dissolve silicone in the manufacture of automobile safety air safety bags. At the time of the reconnaissance, the smell of organic vapor was evident in a room where a toluene/silicone mixture is extruded onto machinery. Mr. Moe stated that due to the lowering of the Permissible Exposure Level (PEL) for toluene, modifications were recently made to reduce the amount of toluene vapors available for human exposure inside the room. At the time of the reconnaissance, one (1) individual was observed working in the room. Mr. Moe confirmed that an air permit is associated with a thermal oxidation process that is designed to limit the amount of organic vapors discharged to the atmosphere.
19. According to Mr. Moe, toluene is stored in one (1) of four (4) above ground storage tanks comprising a tank farm located at the northeast corner of the site (see Attachment A: Photo 7 of 8). At the time of the reconnaissance, Mr. Moe stated that the other three (3) tanks were empty. Mr. Moe estimated that the capacity of each tank to be 10,000 gallons (for a total of 40,000 gallons). Mr. Bennett later confirmed that estimate to be accurate (see Attachment C: July 27, 2007 Memo from Bennett Regarding Tank Volumes).

20. When asked whether any stained soil or stress vegetation existed on-site, both Mr. Bennett and Mr. Moe indicated that they were not aware of any current such condition(s). At the time of the reconnaissance, a walk around the perimeter of the site did not reveal any area of stained soil or stress vegetation.
21. At the time of the reconnaissance, two (2) covered roll-off boxes were observed on the east side of the plant near Lincoln Street. Mr. Moe explained that part of the plant roof was currently being re-decked, and that the roll-offs boxes contained wood debris that was possibly painted with lead-based paint. Mr. Moe suspected that the wood debris was non-hazardous, however, as a conservative measure, the roll-off boxes were, lined, covered and labeled as "Hazardous Waste" until Toxicity Characteristic Leaching Procedure (TCLP) analytical results became available. At the same time/location, the smell of organic vapor was evident in the area, similar to that previously described in Comment 18 above (i.e., toluene/silicone mixture).
22. Near the southeast corner of the site, on the opposite side of Fourth Avenue (i.e. south side), a building was observed that looked similar in age to some of the older on-site buildings. Mr. Bennett stated that the building was currently owned by Milliken & Company and was currently vacant, however, a company laboratory had previously operated at that location until a few years ago.
23. Mr. Bennett, a fisherman himself, was not aware of any fishing that occurred on Long Cane Creek.

RECOMMENDATIONS & FOLLOW-UP REQUIRED:

Use the obtained information documented herein to complete a PA report (in conjunction with additional information). Results of the PA report will be used to determine whether further evaluation of the site under the Hazard Ranking System (HRS) is warranted at this time.

ATTACHMENTS:

- A: Eight (8) Photographs
- B: Wastewater Discharge Permit No. 101
- C: July 27, 2007 Memo from Bennett Regarding Tank Volumes
- D: January 1920 Sanborn Map for LaGrange, GA
- E: Logbook Documentation

REVEIWED BY: 

ATTACHMENT A: Eight (8) Photographs



Site: Milliken – Hillside Mill	County: Troup	City: LaGrange	Photo: 1 of 8
Photographer: Andrew Taft	Date: July 19, 2007	Time: 9:30 AM	Direction Facing: SW
Explanation: The depicted sign on the south side of Brownwood Avenue (1300 block) designates the location of plant offices.			



Site: Milliken – Hillside Mill	County: Troup	City: LaGrange	Photo: 2 of 8
Photographer: Andrew Taft	Date: July 19, 2007	Time: 10:42 AM	Direction Facing: E
Explanation: The depicted small stream (originating just north of the site) flows in a southeastern direction near the western boundary of the site. The depicted culvert is located near the northwest corner of the on-site fire pond (note fire pond in background).			



Site: Milliken – Hillside Mill	County: Troup	City: LaGrange	Photo: 3 of 8
Photographer: Andrew Taft	Date: July 19, 2007	Time: 10:45 AM	Direction Facing: SE
Explanation: The small stream, flowing southeast near the western boundary of the site, separates the site from adjacent private residences to the west. At the time of the reconnaissance, the stream exhibited a low flow volume. Mr. Bethea stated that approximately nine (9) years ago, the stream consisted of just a few intermittent puddles.			



Site: Milliken – Hillside Mill	County: Troup	City: LaGrange	Photo: 4 of 8
Photographer: Andrew Taft	Date: July 19, 2007	Time: 10:53 AM	Direction Facing: NE
Explanation: The small stream, flowing southeast near the western boundary of the site, exits at the southwest corner of the site at the depicted culvert underlying Forth Avenue. During heavy rainfall, the fire pond drains to the stream via the depicted outfall pipe (note fire pond in background).			



Site: Milliken – Hillside Mill	County: Troup	City: LaGrange	Photo: 5 of 8
Photographer: Andrew Taft	Date: July 19, 2007	Time: 11:09 AM	Direction Facing: SW

Explanation: Prior to discharge to the city sewer system, wastewater generated from on-site processes is pH adjusted within the depicted 16,807-gallon concrete neutralization basin. Note the two (2) 250-gallon tanks containing caustic soda and acetic acid reagents for pH adjustment.



Site: Milliken – Hillside Mill	County: Troup	City: LaGrange	Photo: 6 of 8
Photographer: Andrew Taft	Date: July 19, 2007	Time: 11:43 AM	Direction Facing: SW

Explanation: The depicted two (2) 12,000 gallon tanks are used to contain wastewater generated from on-site processes prior to pH adjustment within the neutralization basin. Mr. Moe stated that under certain circumstances, it is necessary to “drum-up” wastewater within the tanks for off-site disposal rather than discharge to the city sewer system.



Site: Milliken – Hillside Mill	County: Troup	City: LaGrange	Photo: 7 of 8
Photographer: Andrew Taft	Date: July 19, 2007	Time: 12:45 PM	Direction Facing: SE

Explanation: At the northeast corner of the site, toluene is stored in one (1) of four (4) 10,000-gallon tanks. At the time of the reconnaissance, Mr. Moe stated that the other three (3) tanks were empty. Toluene product is used to dissolve silicon in the on-site manufacturing of automobile safety air bags.



Site: Milliken – Hillside Mill	County: Troup	City: LaGrange	Photo: 8 of 8
Photographer: Andrew Taft	Date: July 19, 2007	Time: 1:14 PM	Direction Facing: S

Explanation: The depicted culvert underlies Brownwood Avenue at the northwest corner of the site. According to Mr. Bennett, the depicted small stream drains approximately 254 acres of land north of Brownwood Avenue before flowing southeast near the western boundary of the site. At this location, water was observed in intermittent puddles.

ATTACHMENT B: Wastewater Discharge Permit No. 101



April 4, 2006

Mr. Mark Moe
Sr. Environmental Engineer
Milliken & Co. - Valway Plant
1300 Fourth Avenue
LaGrange, GA 30240

RE: Wastewater Discharge Permit No. 101 - Renewal

Dear Mr. Moe:

Wastewater Discharge Permit No. 101 for the combined discharge from the Hillside/Valway Complex is enclosed. As you know, there are several changes to the effluent monitoring requirements found in Part I. The permit will be effective for a three-year period.

The permit renewal fee has been received and credited to your account. Please let me know if you have questions or need any information. I may be reached at 883-2150 or by e-mail at annew@lagrange-ga.org.

Sincerely,

A handwritten signature in cursive script, appearing to read "Anne Westmoreland".

Anne Westmoreland
Water Pollution Control Superintendent

**CITY OF LAGRANGE, GA
INDUSTRIAL USER
WASTEWATER DISCHARGE PERMIT**

In accordance with the provisions of the City of LaGrange sewer use ordinance (City Code, Chapter 20-15, Article II)

Milliken & Company – Hillside/Valway Plant

is authorized to discharge industrial wastewater into the City's sewer lines at

1300 Brownwood Avenue
LaGrange, GA 30240

in accordance with the conditions set forth in this permit. Compliance with this permit does not relieve the permittee of its obligation to comply with any or all applicable pretreatment regulations, standards or requirements under local, State, or Federal laws, including any that may become effective during the term of this permit.

Noncompliance with any term or condition of this permit shall constitute a violation of the City of LaGrange's sewer use ordinance.

This permit shall become effective on April 8, 2006

And shall expire at midnight on April 7, 2009


Water Pollution Control Superintendent

City of LaGrange, Georgia

PART I**EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The permittee shall comply with the United States Environmental Protection Agency (EPA) General Pretreatment Regulations (40 CFR Part 403, as amended). In addition, the permittee shall comply with the City of LaGrange, Georgia sewer use ordinance, (City Code, Chapter 20-15, Article II).

The Discharge(s) from the industrial outfall(s) shall be monitored by the permittee as specified below.

Parameter	Discharge Limitations Mg/l		Monitoring Requirements		
	Daily Maximum	Monthly Average	Frequency	Sample Type	Location No.
Biochemical Oxygen Demand			1/ quarter	Composite	1
Total Zinc	1.77		1/ quarter	Composite	1
Total Silver			1/ quarter	Composite	1
Total Phenols			1/ quarter	Composite	1
Total Suspended Solids			1/ 6 months	Composite	1
Color (ADMI adj. pH 7.6)			1/ 6 months	Composite	1
Oil & Grease			1/ 6 months	Grab	1
Total Copper			1/6 months	Composite	1
Flow			continuously		1

The pH shall not be less than 5.0 standard units nor greater than 12.0 standard units and shall be monitored:
Continuously at location 1.

Samples shall be collected at the following location(s):

Location No. 1 – Effluent of neutralization basin at Hillside Plant

Discharges from outfalls not sampled shall be of domestic or non-process wastewater only and shall comply with Section 20-15-31 of the City of LaGrange Code.

*** Parameters sampled once/ 6 months should be reported on the June and December self-monitoring reports.**

PART II
MONITORING AND REPORTING

A. Representative Sampling

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.
2. Composite samples should be flow proportional where possible. Time composite during production hours or a minimum of 4 grab samples combined may be substituted with approval by the City.
3. Any change in sampling location from that specified in this permit, must be approved by the Superintendent.

B. Automatic Resampling

If the results of the permittee's wastewater analysis indicates that a violation of this permit has occurred, the permittee must:

1. Inform the Superintendent of the violation within 24 hours; and
2. Repeat the sampling and pollutant analysis and submit, in writing, the results of this second analysis within 30 days of the first violation.

C. Test Procedures

All handling and preservation of collected samples and laboratory analysis of samples shall be performed in accordance with 40 CFR Part 136 and amendments thereto or otherwise approved by EPA.

D. Recording

For each measurement of sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

1. The date, exact place, method, and time of sampling and the names of the persons taking the samples;
2. The date analyses were performed;
3. Who performed the analyses;
4. The analytical techniques/methods used; and
5. The results of such analyses.

E. Reporting

1. Monitoring results obtained during the previous 3 months shall be summarized for each month and reported on a Self Monitoring Form post marked no later than the 14th day of the month following the completed reporting period. The first report is due on June 14, 2006. A single signed copy of this, and all other reports required herein, shall be submitted to the Superintendent by mailing to:

Water Pollution Control Superintendent
City of LaGrange
P.O. Box 430
LaGrange, Georgia 30241

2. The Industrial User shall notify the Superintendent or Long Cane Plant personnel (883-2150) immediately of any accidental or slug loading in such volume or strength as to cause interference in the sewer system or at the plant. Formal written notification discussing circumstances and remedies shall be submitted to the Superintendent within 5 days of the occurrence.
3. The permittee shall notify the Superintendent prior to the introduction of new wastewater or pollutants or any substantial change in the volume or characteristics of the wastewater being introduced into the POTW. Formal written notification shall follow within 30 days of such introduction.

4. Any upset experienced by the Industrial User of its treatment process that places it in a temporary state of noncompliance with wastewater discharge limitations contained in this permit or other limitations specified in the City's Ordinance shall be reported to the Superintendent within 24 hours of first awareness of the commencement of the upset. A detailed report shall be filed within 5 days.

F. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Self Monitoring Form.

G. Record Retention

The permittee is required to retain for a minimum of three (3) years any records of monitoring activities and results and shall make such records available for inspection and copying by the City, the Georgia EPD, or the U.S. EPA. The period of retention shall be extended during the course of any unresolved litigation regarding the permittee or when requested by the Superintendent, EPD, or the EPA.

H. Definition

1. Monthly average: The arithmetic mean of all the samples collected in a one-month period.
2. Flow, (gpd): The flow is determined as the arithmetic mean of the total daily flows recorded during the calendar month.
3. Arithmetic Mean: The arithmetic mean of any set of values is the summation of the individual values divided by the number of individual values.
4. Flow Proportional Composite Samples: A sample collected over a defined period of time at a rate proportional to the flow.
5. Time Composite Samples: A sample collected over a defined period of time at a rate proportional to time.
6. Grab Sample: An instantaneous sample of the wastewater collected at the period(s) most representative of the total discharge.

PART III
COMPLIANCE SCHEDULE

The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

- A. Not later than fourteen (14) days following each date in the subsequent schedule and the final date for compliance, the permittee shall submit a progress report to the Superintendent including, as a minimum, whether or not it complied with the increment of progress, the reason for the delay, and steps being taken by the permittee to return the activities to the schedule established. In no event shall more than nine (9) months elapse between such progress reports to the City.

B. Compliance Schedule:

**PART IV
GENERAL CONDITIONS**

- A. All discharges authorized herein shall be consistent with the terms and condition of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facilities expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new Discharge Permit application or, if such change will not violate the effluent limitations specified in this permit, by notice to the Superintendent of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.
- B. The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.
- C. The permittee shall take all reasonable steps to minimize any adverse impact to the City of LaGrange's sewer system and waste treatment facilities resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.
- D. The permittee shall allow the Superintendent or authorized representatives upon presentation of his credentials:
1. The right of entry to, upon, or through any premises in which an effluent source is located or in which any records required to be maintained under the terms and conditions of this permit are located.
 2. Access to and copy records, inspect any monitoring equipment or methods required under the terms and conditions of this permit, and sample any effluents.
- E. Wastewater discharge standards are issued to a specific user for a specific operation. A permit shall not be assigned or transferred or sold to a new owner, new user or for different premises, unless approved by the Superintendent.
- F. The permittee shall not increase the use of potable or process water or, in any way, attempt to dilute an effluent as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in this permit.
- G. The permittee must apply in writing for a renewal permit within the period of time not more than ninety (90) days and not less than sixty (60) days prior to expiration of the current permit.
- H. The permittee shall not discharge any of the prohibited pollutants identified in Section 20-15-31 of the City's sewer use ordinance.
- I. This permit may be modified, suspended, or revoked in whole or part for cause including but not limited to the following:
1. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements.
 2. Material or substantial alterations or additions to the discharger's operation processes, or discharge volume or character.
 3. Changes in the City's NPDES permit or applicable water quality standards.
 4. A change in any condition in either the industrial user of the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge.
 5. Information indicating that the permitted discharge poses a threat to the City's collection and treatment systems, POTW personnel or the receiving waters.

PART IV
GENERAL CONDITIONS (continued)

6. Violation of any terms or conditions of the permit or other law or regulation.
 7. Misrepresentation or failure to disclose fully all relevant facts in the permit application or in any required reporting.
 8. To correct typographical errors in the permit.
 9. Upon request of the permittee, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.
- J. The permittee will be notified of any proposed changes in this permit at least thirty (30) days prior to the effective date of the change. Any change or new condition in this permit shall include a provision for a reasonable time schedule for compliance. The permittee may appeal the decision of the Superintendent in regard to any changed permit conditions.
- K. Sections 20-15-76 through 20-15-88 of the City of LaGrange's sewer use ordinance provide penalties for violations of the ordinance. Penalties may include fines of up to \$1000 per day and/or imprisonment of up to six months. In addition, the City may recover fines, fees, and other expenses of litigation.
- L. Any permittee who commences the discharge of hazardous waste shall notify the Superintendent, the EPA Regional Waste Management Division Director, and state hazardous waste authorities, in writing, of any discharge into the POTW of a substance which, if otherwise disposed of, would be a hazardous waste under 40 CFR Part 261. Specific notification requirements are contained in Section 20-15-68 of the City's sewer use ordinance.
- M. Within 60 days of permit issuance, the permittee shall submit an accidental discharge/slug control plan for approval by the Superintendent. Section 20-15-39 of the sewer use ordinance contains minimum plan requirements. Any subsequent changes to the approved plan shall be submitted to the Superintendent within 30 days of modification.

**PART V
SPECIAL CONDITIONS**

The permittee shall comply with following special conditions:

-Permittee shall maintain, in good working order, lint removal equipment which has been approved by the City of LaGrange.

**ATTACHMENT C: July 27, 2007 Memo from Bennett
Regarding Tank Volumes**

To: Mr. Andrew Taft
From: Kent Bennett
Subject: Tank Volumes for EPD PA

Date: July 27, 2007

This memo is to respond to the telephone conversation between you and I concerning your request for the volume capacity of the tanks listed below.

Volume of tanks (in gallons).

Hillside Plant

pH Neutralization Pit 16,807 gallons
Reagent tank 1 250 gallons
Reagent tank 2 250 gallons
Fuel oil tank 200,000 gallons not used (empty)
Fuel oil tank 100,000 gallons (#6 fuel oil)

Valway Plant

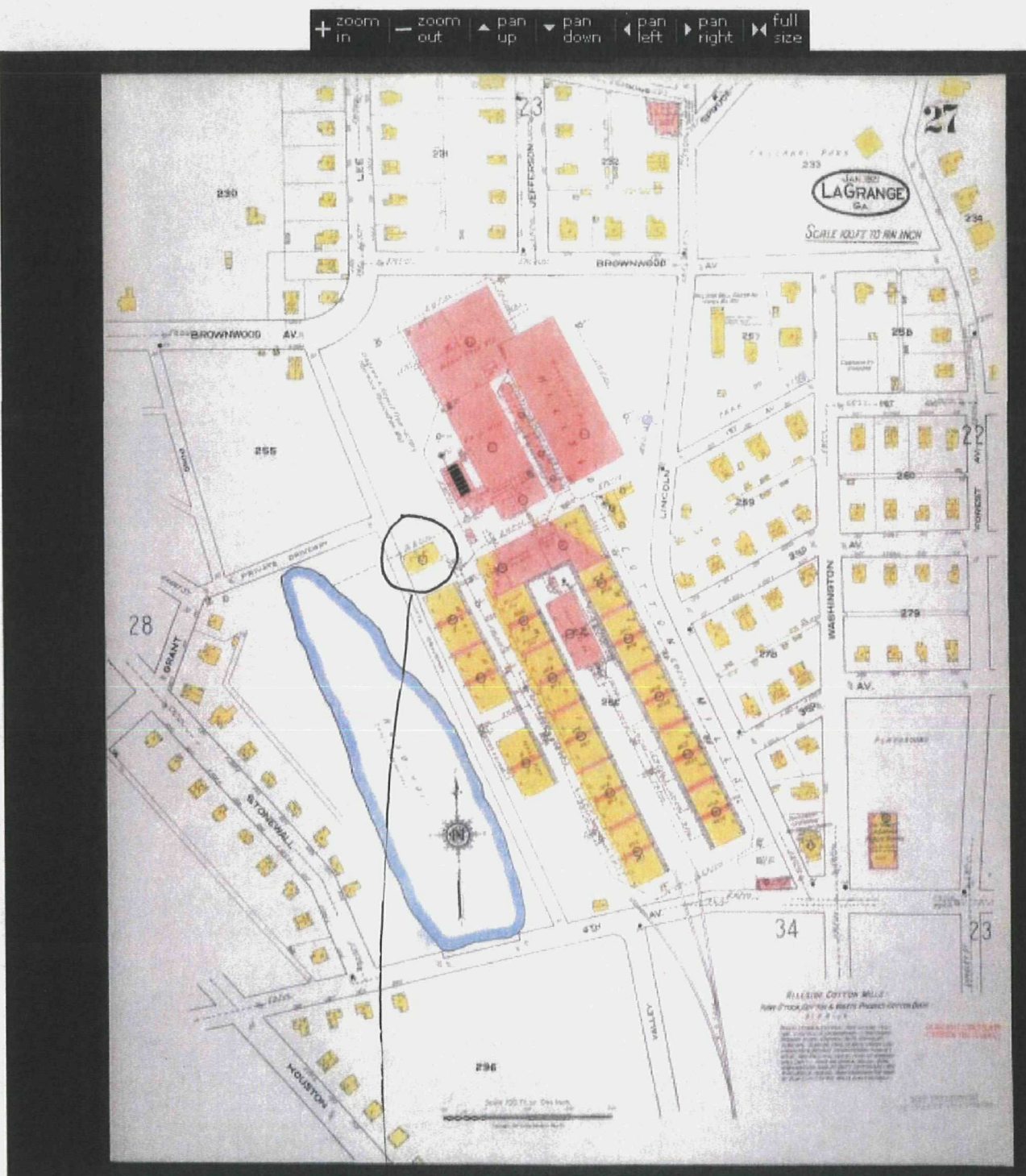
Tank Farm North East corner

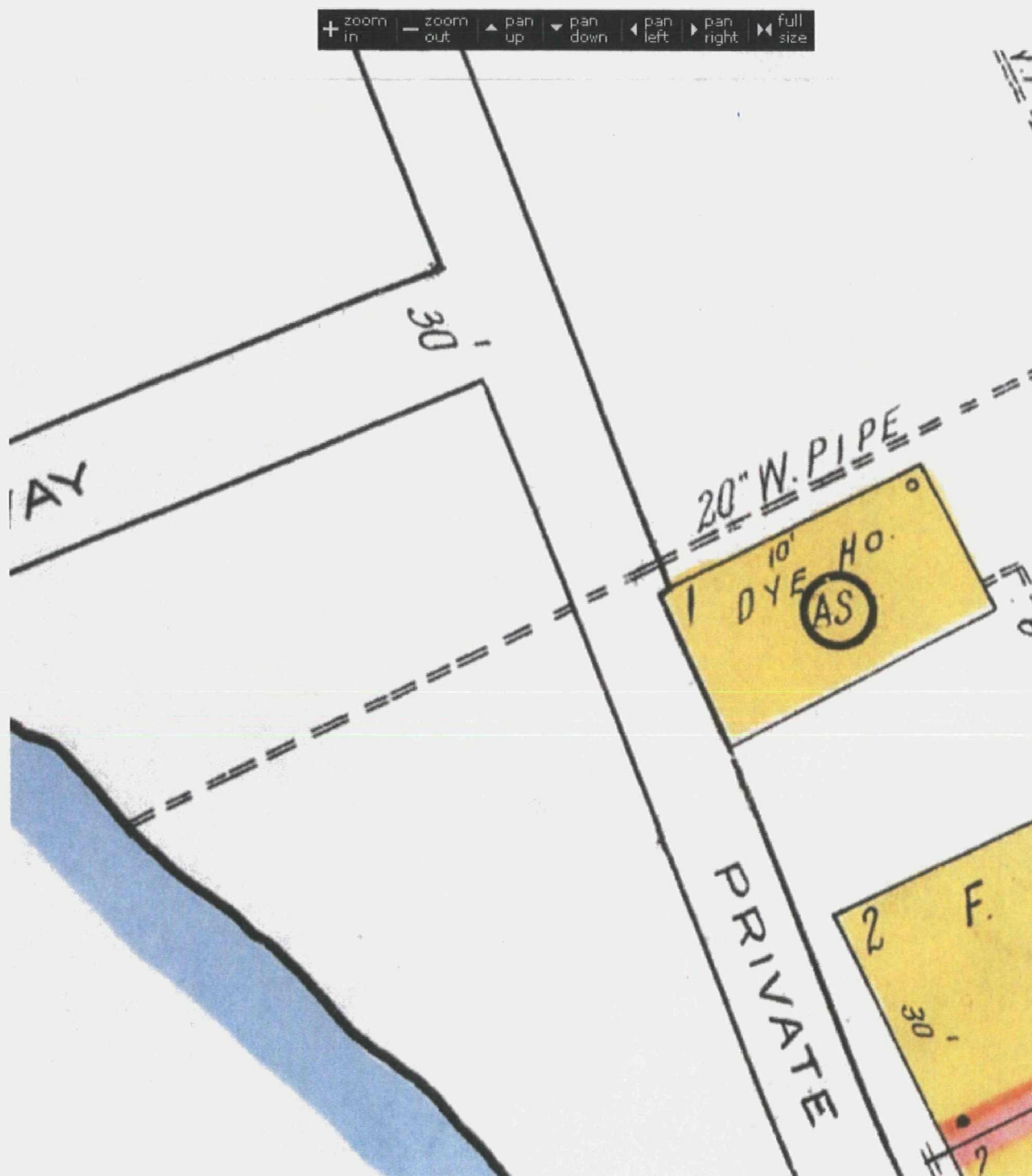
Toluene tank #1 10,000 gallons
Storage tank #2 10,000 gallons (not used)
Storage tank #3 10,000 gallons (not used)
Storage tank #4 10,000 gallons (not used)

Zinc Wastewater tanks

Tank #1 12,000 gallons
Tank #2 12,000 gallons

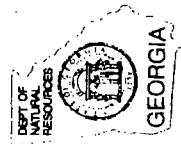
**ATTACHMENT D: January 1920 Sanborn Map for
LaGrange, GA**





ATTACHMENT E: Logbook Documentation

DEPARTMENT OF NATURAL RESOURCES



Environmental Protection Division
Hazardous Waste Management Branch

Andrew S. Taft
Environmental Specialist

Floyd Towers East, Suite 1154
2 Martin Luther King Jr. Drive, S.E.
Atlanta, Georgia 30334

Office: (404) 656 2933
Email: andy.taft@dnr.state.ga.us

Fax: (404) 651-9425
Website: www.dnr.state.ga.us/dnr.htm

7/19/2007

Hillside Textile Mill
Lapange, GA

leave ATL 7:16 AM

veh. # 121808 60,729

arrive 9:30 AM

Photo #1, 9:30 AM SW

Sign @ front entrance

AST

Russ Bethea

- Environ. Sup
Mentor Manager

Mr. Bechen

Conditionally exempt
haz waste generator

Title 5 permit

Storm Water Permit

Wastewater permit

Boiler

VOC of dye range

dye fiber

dye one color but colors

change

do not do patterns

(no dry cleaning operation
since I've been here
Mr. Bennett.

Dyes have VOCs

Waste water generated
by dying process goes to
the city

* Wastewater permit with City of
La Grange

surface water body
water used for fire pond

do test for pH
monitor for pH

Continuous monitoring in retention
basin.

Hillside community surrounds mill

Initial plant 1963

Fire pond

stormwater source

floods every 2-3 years

intermittent stream is currently
almost dry

don't send anything to landfill

have a compactor taken to
cleaning area

-trucked to Savannah
1 of 2 incinerator sites

restrooms & dye house
to sewer

used oil sent off site

parts-cleaner with non-
haz solvent

Pick-up 4 times a year

food waste.
Canteen waste and trash, floor sweep
sent to incinerator

Managed by 2 Groups

- Hillside location

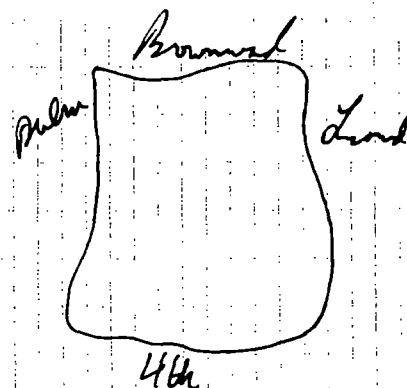
Carpet
dye some fabrics (low volume)
tuft process (dry process)

- Valleyway location

finishing plant

multitude
of products
make
fabrics
more adherent
to rubber

treat industrial fabrics
(automotive air bag fabrics)
scurbath heat setting



Dye house on Sanborn Map
no longer located

Mr Bennett

Tufting

process by which
yarns are sewed down
into a substrate

gray carpet ready for
dyeing

95% of yarns are not

died at this location
on Gumbo Map
dyhouse destroyed about
2002

almost exclusively tuft
white carpet and scrub
pattern at another location.

Mr. Bennett

Long Came Fishing?
don't know

Mr. Bennett
only make carpet

254 acres

upgradient water shed
from pond

dragruns - underneath Palm
street not connected

Storm water drains
connect to outfall

Out fall just west of
north part of fire pond

Photo #2 E 10:42 AM

33.02350

85.05062

there was water in it

Mr. Bethae

hasn't seen dry in
the past 9 years

however 9 years ago
there were just a few
AST

puddles.

Photo #3 SE 10:45

uncontinuous flow pattern

Mr.

Always has water,
not always flowing

Mr. Bernd

lots of turtles in
fire pond

possible muskrats

AST

Mr. Baker says
fire pond never
drys up

hasn't
overflowed
in at least 1 1/2 yrs.

Photo #4 NE 10:53

4th Ave outfall
Culvert goes under Rd

fire pond drains when
12 heavy rain

ABT

Power distribution Center
S of 4 Ave

Mr. Beth indicated
nothing else S of plant

retention tank

Mr. B

Most of time is ^{wastewater} under

~~is~~ caustic sewer
Caustic sewer solution with outfall

take poly acids out of yards

sizing

ABT

haven't added acid or
caustic in over year 1/2

15x15x15

Photo #5 SW 11:09

Wastewater Treatment Tank

33.02327

85.05067

discharged to sewer

normally add caustic

M. Bettel

have point source treatment
at machines that generate
wastewater

Mr. B

Compactor for regular
waste

C&C Sanitation pickup

Compacted trash

might be

no production materials

other than floor sweep run-
-waste

Beal up yarn & carpet
remnants for re-sale

Waste reclamation people buy
it, not sure what it is
used for

Sell card board & cardboard
rolls

Separate wastestreams
for re-use

only wastewater
and solid waste

goes off-site for disposal

11.

415

Valway has their own air permit

Wastewater from
rinsing yarn (no soap
or other chemicals)
fiber

fiber is nylon

also make polypropylene

Maxell

~~Fiber optics & conduct~~

487

17.

Mr. B

Area of dye house on
Sanborn Map

- estimate building
was destroyed around 2000
- hadn't been using
for 20 years
- did used to dye in
kettles in former
building

18. at least 12 years ago

ABT

area covered by asphalt
concrete & paint.

Mr. Moe

iron bay solid waste

metal gets recycled

cardboard gets recycled

trash goes in compactor

goes to same place

as Hillside plant

ABT

Small
large quantity generator
been inspected by Thibault
Waleski
Linda Waleski

Coating is LQG

Tanks contain Zing

2 tanks

6'000 gal

5'000 gal

33.02265
85.05013

20. Photo 6 11:43 SW

ABT

formaldehyde
anionia
latex } goes into
wastewater
stream

however, sometimes
conc. gets drummed up
and shipped off site

GCP

doesn't inspect Hillsdale

ABT

21.

latex wastestream
(non-haz)

have 7 satellite accumulation
points

55-gall drums labeled
as such

phenol waste
formaldehyde latex

discharged to city sewer

Currently sending off-site
as non-haz

5-gal bucket
for alkaline batteries
handling as universal
waste

1 parts cleaner

uses

Premium Gold 150

Sampled every 6 months
to ensure non-haz

Change out every quarter

Done with Mr. B. AST

1 aresal puncture
drum

Storage area

4-drum 55 non-bag
latex wash

10-horsez bulbz universal

5-5 gal bucket
barterz & barrelz
universal

1-55 gal bag wash
broken tubes SAP

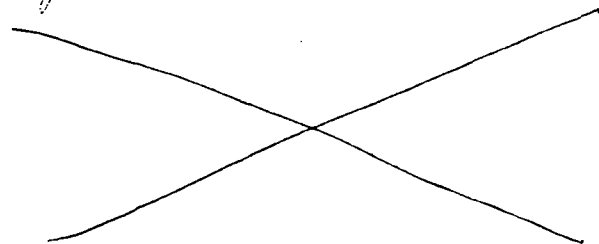
main products

industrial textiles

abrasives

lawn mower grass bags

ingredients in tires



another non-bz parts washer

Toluene used to
dissolve sludge

certain type of sludge
requires ~~be~~ dissolving
with toluene

toluene comes in
bulk

part of air permit

recently lowered PEL of
toluene

toluene gets flushed
of and vented to the
TO

Thermal Destabilizer

'Tox' in air permit

40 55
30-55 gall drums
a month shipped off-site

Contains Toluene, MEK

Run 7

emission unit CURE

D001 F003 F005 U220

10,000-20,000 lbs
a month

Very expensive
to dispose

28.

AST

Silicone instead of
latex

for making airbags

50-100 drums a month
non-haz

Silicone, talk months
accumulate

40,000 + gallons
per month

AST

29.

Tank Farm

1 full of toluene
product

10,000 x 4

3 empty

Photo 12:45 SE
Tank farm

North east
corner of property

Mr. B & Mr. Mac

Not aware of any
stained soil or stressed
Vegetation

2002

Clay pipe collected
^{under building}
dammed up the creek
pumped out water

old dye might have
been released

storm water

didn't even know
pipe existed

inside sealed up pipe

Current roofing
job
decking replaced

Painted will lead
based paint

2-roll offs

liners & tops

will probably pass
TCLP

a little bit of
paint on wood

conservatively handle

Old Lab Bldg
shut down a few
years ago

SE corner

"Research Bldg"

Vacant

Shut down

was to be demolished

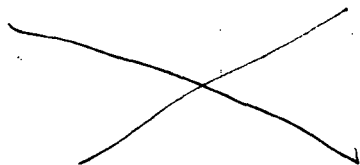


Photo 1:14 PM 5

Culvert Brownwood
north of plant

Creek dry in places
standing water in some
places

- Complete on-site recon 1:21 PM

Proceeded to Tax Assessor Office
for maps & property info

Return ATL 5:05 ~~PM~~ PM 60,907
delayed by construction traffic
on 85N.

APPENDIX B

Georgia Department of Natural Resources

2 Martin Luther King, Jr. Drive, SE, Suite 1462, Atlanta, Georgia 30334

Chris Clark, Commissioner

Environmental Protection Division

F. Allen Barnes, Director

Response and Remediation Program

(404) 657-8600

 **COPY**

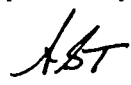
March 1, 2010

TRIP REPORT

SITE NAME & LOCATION:

Milliken & Company
Hillside Location
1300 Brownwood Avenue
LaGrange, Troupe County, Georgia

TRIP BY:

Andrew S. Taft 
CERCLA Site Assessment Coordinator
GA Environmental Protection Division
Land Protection Branch
Response and Remediation Program

ACCOMPANIED BY:

Luis E. Medina
Environmental Compliance Specialist
GA Environmental Protection Division
Land Protection Branch
Response and Remediation Program

DATE OF TRIP:

February 24, 2010

OFFICIAL CONTACTED:

Mark Moe
Senior Environmental Chemist
Milliken & Company

REFERENCE:

Site Reconnaissance
Site Inspection (SI)

PURPOSE:

The purpose of the site reconnaissance was to collect certain information necessary to complete a Site Inspection (SI) report in accordance with the document titled: *Guidance for Performing Site Inspections Under CERCLA*, United States Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, DC 20460, EPA/540-R-92-021, September 1992.

DRIVING DIRECTIONS FROM ATLANTA:

- Take Interstate 85 South to Exit 14 at U.S. Highway 27;
- Turn right onto U.S. Highway 27 – proceed approx. ½ mile to South Davis Road;
- Turn left onto South Davis Road – proceed approx. ½ mile to Whitesville Road;
- Turn right onto Whitesville Road – proceed approx. ½ mile to Lukken Industrial Drive;
- Turn left onto Lukken Industrial Drive – proceed approx. 1 mile to Troup Street;
- Turn right onto Troup Street – proceed approx. ¾ mile to Brownwood Avenue; and
- Turn right onto Brownwood Avenue – proceed several blocks to 1300 Brownwood Avenue.

COMMENTS:

The following comments serve to document areas visited, interviews conducted and observations noted during the February 24, 2010 Site Reconnaissance:

1. Mr. Moe stated that the Hillside Plant has ceased operations, and that carpet is no longer manufactured on-site.
2. Mr. Moe stated that the Valway Plant and the Hillside Coating Plant continue to operate on-site with no additions or deletions to processes since the July 19, 2007 site reconnaissance.
3. Mr. Moe stated that on-site wastewater treatment processes continue to discharge wastewater to the city sewer system, however, since closure of the Hillside Plant, previous operations associated with that plant no longer generate wastewater. Mr. Moe indicated that previous Hillside Plant operations contributed minimally to the total volume of wastewater generated on-site.
4. Mr. Moe stated that a third neutralization basin has been added to the on-site wastewater treatment system (since the July 19, 2007 site reconnaissance).
5. Mr. Moe stated that should surface water or sediment samples be collected from the on-site fire pond, it was company policy that life jackets be worn.
6. When asked if there was a nearby pond where surface water or sediment samples could be collected for comparison purposes, Mr. Moe stated that a pond existed at Granger Park that might be suitable. A later search on the "Google Earth" website confirmed the location of the pond at Granger Park (see Attachment A: Location of Granger Park, LaGrange, Georgia).
7. At the time of the reconnaissance, private residences nearest to the on-site fire pond were occupied (i.e., residences on Stonewall Street).
8. Mr. Moe stated that he has never observed the stream that separates the fire pond from Stonewall Street residences run dry, however, he had observed low water conditions he described as a "trickle."

9. Just south of Fourth Street, Mr. Moe provided access to locked and fence property containing an old water treatment plant. Mr. Moe explained the plant formerly drew raw water from the Chattahoochee River and treated it sufficiently for process water that was used for on-site manufacturing processes. According to Mr. Moe, wastewater treatment never occurred at the water treatment plant. At the time of the reconnaissance, numerous paint chips were observed on the floor of the associated multi-story brick building.
10. Mr. Moe stated that since the July 19, 2007 reconnaissance, the stream that separates the fire pond from private residences on Stonewall Street had been straighten, and rip-rap had been added to the side of the stream nearest to the fire pond. Mr. Moe indicated that stream sediment on the side nearest to the residence likely represented older sediment due to the relatively recent stream modifications.
11. Twelve (12) proposed co-located surface water/sediment sample locations were visited to confirm physical access and the type of sediment matrix (see Attachment B: Proposed Co-Located Surface Water/Sediment Sample Locations). All locations were accessible and had a similar sandy sediment matrix.
12. During Phase I of the on-site sampling event tentatively scheduled for the week of March 15, 2010, each of the co-located surface water/sediment sample locations will be adequately described and photographed. Further, geographical coordinates will be determined for each sample location.


RECOMMENDATIONS & FOLLOW-UP REQUIRED:

Use the obtained information documented herein to complete a Site Inspection (SI) report (in conjunction with additional information). Results of the SI report will be used to determine whether further evaluation of the site under the Hazard Ranking System (HRS) is warranted at this time.

ATTACHMENTS:

- A: Location of Granger Park, LaGrange, Georgia
- B: Proposed Co-Located Surface Water/Sediment Sample Locations
- C: Logbook Documentation

PHOTOGRAPHS: None

REVEIWED BY: 

ATTACHMENT A: Location of Granger Park, LaGrange, Georgia



MAPQUEST

Sorry! When printing directly from the browser your directions or map may not print correctly. For best results, try clicking the Printer-Friendly button.

A Starting Location

1300 Brownwood Ave
Lagrange, GA 30240-4900

B Ending Location

Granger Park Tennis Court
100 Hunnicutt Pl
Lagrange, GA 30240
(706) 883-1685

Total Travel Estimate: **6 minutes** / **2.20 miles** Fuel Cost: [Calculate](#)



A 1300 Brownwood Ave [Edit](#)
Lagrange, GA 30240-4900



1. Start out going **EAST** on
BROWNWOOD AVE toward
LINCOLN ST. 0.0 mi



2. Turn **LEFT** onto **LINCOLN ST.** 0.0 mi



3. Stay **STRAIGHT** to go onto **DALLIS ST.** 0.4 mi



4. Turn **LEFT** onto **PARK AVE.** 0.7 mi



5. Turn **RIGHT** onto **VERNON ST/US-29/GA-109/GA-14.** 0.4 mi



6. Turn **LEFT** onto **N GREENWOOD ST/GA-219.** 0.6 mi



7. **100 HUNNICUTT PL.**



Granger Park Tennis Court[Edit](#)

100 Hunnicutt Pl, Lagrange, GA 30240 - (706) 883-1685

Total Travel Estimate: **6 minutes** / **2.20 miles** Fuel Cost: [Calculate](#)

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Starting Location

1300 Brownwood Ave
Lagrange, GA 30240-4900



Ending Location

Granger Park Tennis Court
100 Hunnicutt Pl
Lagrange, GA 30240
(706) 883-1685

Total Travel Estimate: **6 minutes** / **2.20 miles** Fuel Cost: [Calculate](#)

Park Pond



1300 Brownwood Ave [Edit](#)

Lagrange, GA 30240-4900



1. Start out going **EAST** on **BROWNWOOD AVE** toward **LINCOLN ST.** 0.0 mi



2. Turn **LEFT** onto **LINCOLN ST.** 0.0 mi



3. Stay **STRAIGHT** to go onto **DALLIS ST.** 0.4 mi



4. Turn **LEFT** onto **PARK AVE.** 0.7 mi



5. Turn **RIGHT** onto **VERNON ST/US-29/GA-109/GA-14.** 0.4 mi



6. Turn **LEFT** onto **N GREENWOOD ST/GA-219.** 0.6 mi



7. **100 HUNNICUTT PL.**



Granger Park Tennis Court [Edit](#)

100 Hunnicutt Pl, Lagrange, GA 30240 - (706) 883-1685

Total Travel Estimate: **6 minutes** / **2.20 miles** Fuel Cost: [Calculate](#)

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**ATTACHMENT B: Proposed Co-Located Surface Water/Sediment Sample
Locations**



ATTACHMENT C: Logbook Documentation

2/24/2010

Milliken & Company



MARK MOE
SENIOR ENVIRONMENTAL CHEMIST
VALWAY PLANT/HILLSIDE COATING

Milliken & Company
1300 4th Avenue
LaGrange, GA 30240
milliken.com

Bus (706) 880-3760
Fax (706) 880-5849
Cell (706) 594-5452
mark.moe@milliken.com

Hillside Plant shut down
no more carpet

→ Hillside Coating & both operating
→ Valway

no additions or deletions to processing
@

① Andrew B. Taft 2/24/2010

Hillside produced limited
wastewater

still have same discharge permits

Zinc Tanks 2 tanks
Wastewater

subset of what is
discharged to city

Catch basins collect
SW run-off gets piped
to Fire Pond
2 discharge pipes

added additional neutralizers
basin

3 of 3 2 previously existing

Andrew B. Taft 2/24/2010

②

has a sampler
for equalization basin

have to have a life jibber
to sample pond

Pond at Granger Park
Could use as
background

Contiguous house to pond
still occupied

Mark Moe

has never seen stream completely dry
may be a tricked

Andrew S. Taft 2/24/2010

(3)

stream is not on property

background sample loc. may be
owned by

"PACLOET"

looked at old water house
filled with paint chips
on S side of 4th avenue

draw raw water from Chatahoochee
river and treated for use at plant

no wastewater was treated
here

Stream at side of street
was straightish just
up ramp added

old residence on int. side

west
Andrew S. Taft 2/24/2010

(4)

APPENDIX C

Georgia Department of Natural Resources

2 Martin Luther King, Jr. Drive, SE, Suite 1154, Atlanta, Georgia 30334

Chris Clark, Commissioner
Environmental Protection Division
F. Allen Barnes, Director
404/656-2833

 **COPY**

March 4, 2010

VIA HAND DELIVERY

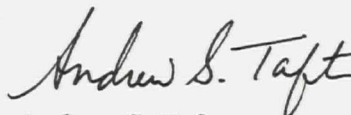
Ms. Donna Seadler
Superfund Site Assessment Manager
U.S. Environmental Protection Agency
Waste Management Division
Superfund Site Evaluation Section
61 Forsyth Street, SW
Atlanta, Georgia 30303-3104

RE: Milliken and Company
LaGrange, Troup County, Georgia
Site Inspection Sampling and Analysis Plan

Dear Ms. Seadler:

Enclosed you will find a Site Inspection (SI) Sampling and Analysis Plan (SAP) that has been completed for the above referenced site. Should you have any questions or comments regarding the SAP, please contact Mr. Luis Medina at (404) 463-7507.

Sincerely,



Andrew S. Taft
CERCLA Site Assessment Coordinator
Hazardous Waste Management Branch

cc: David Brownlee, EPD (w/o enclosure)
Luis Medina, EPD (w/o enclosure)

File: CERCLA Pre-Remedial (FY-2010)
s:\rdrive\andy\pa-si\03-04-10.ltr.doc

SAMPLING & ANALYSIS PLAN FOR SITE INSPECTION

**MILLIKEN & COMPANY
LAGRANGE, TROUP COUNTY, GEORGIA
GAD 981 275 993**

PREPARED FOR:

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION IV
ATLANTA FEDERAL BUILDING
61 FORSYTH STREET, S.W.
ATLANTA, GEORGIA 30303-3415**

PREPARED BY:


ANDREW S. TAFT

**GEORGIA ENVIRONMENTAL PROTECTION DIVISION
2 MARTIN LUTHER KING, JR. DRIVE
FLOYD TOWER EAST, SUITE 1154
ATLANTA, GEORGIA 30334**

REVIEWED BY:



**DAVID BROWNLEE
GEORGIA ENVIRONMENTAL PROTECTION DIVISION
2 MARTIN LUTHER KING, JR. DRIVE
FLOYD TOWER EAST, SUITE 1154
ATLANTA, GEORGIA 30334**

MARCH 2010

TABLE OF CONTENTS

Sampling and Analysis Plan for Site Inspection
Milliken & Company
LaGrange, Troup County, GA

TABLE OF CONTENTS

NARRATIVE

- 1.0 Introduction
- 2.0 Site Description
 - 2.1 Site Location
 - 2.2 Site Description
 - 2.3 Operational History and Waste Characteristics
 - 2.3.1 Operational History
 - 2.3.2 Waste Characteristics
- 3.0 Waste/Source Sampling
 - 3.1 Sample Locations
- 4.0 Groundwater Migration Pathway
 - 4.1 Hydrogeology
 - 4.2 Groundwater Migration Targets
 - 4.2.1 Target Population, Nearest Well and Wellhead Protection Area
 - 4.2.2 Resources
 - 4.3 Groundwater Sample Locations
- 5.0 Surface Water Migration Pathway
 - 5.1 Hydrology
 - 5.1.1 Overland Run-off Route
 - 5.1.2 Target Distance Limit
 - 5.2 Surface Water Migration Targets
 - 5.2.1 Drinking Water Threat
 - 5.2.2 Human Food Chain Threat
 - 5.2.3 Environmental Threat
 - 5.2.3.1 Wetlands
 - 5.2.3.2 Aquatic Sensitive Environments
 - 5.3 Surface Water Sample Locations
- 6.0 Soil Exposure and Air Migration Pathways
 - 6.1 Physical Conditions
 - 6.2 Soil Exposure Targets
 - 6.2.1 Resident Population, On-Site Workers and Nearby Population
 - 6.2.2 Terrestrial Sensitive Environments
 - 6.2.3 Resources
 - 6.3 Air Migration Targets
 - 6.3.1 Target Population and Nearest Individual
 - 6.3.2 Sensitive Environments (Aquatic and Terrestrial)
 - 6.3.3 Resources
 - 6.4 Soil Sample Locations
 - 6.5 Air Monitoring
- 7.0 Collection of Non-Sampling Data
- 8.0 Quality Assurance / Quality Control Samples and Procedures

NARRATIVE (continued)

9.0 Field Activities

10.0 Investigation-Derived Waste Plan

11.0 Project Management

11.1 Project Manager/Responsibilities

11.2 Field Equipment / Health and Safety

11.3 Community Relations

11.4 Project Schedule

REFERENCES (69)**TABLES (1)**

Table 1: Proposed Sample Collection

FIGURES (2)

Figure 1: Soil Sample Locations

Figure 2: Co-Located Surface Water & Sediment Sample Locations

ATTACHMENTS (3)

Attachment A: Trip Report Documenting 02/24/2010 Site Reconnaissance

Attachment B: Site-Specific QAPP

Attachment C: Sampling Equipment List

NARRATIVE

SAMPLING AND ANALYSIS PLAN

SITE INSPECTION MILLIKEN & COMPANY LaGrange, Troup County, Georgia EPA ID No. GAD 981 275 993

1.0 INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Georgia Environmental Protection Division (GA EPD) of the Georgia Department of Natural Resources is conducting a Site Inspection (SI) of the Milliken & Company Site (hereinafter referred to as the "site"), located in LaGrange, Troup County, Georgia. The purpose of this SI is to collect information concerning current conditions at the site sufficient to assess the immediate or potential threat posed to human health and/or the environment, to determine the need for additional investigation under CERCLA/SARA or other authority; and, if appropriate, to support site evaluation using the Hazard Ranking System (HRS) for possible proposal to the National Priorities List (Ref. 1). In addition to the HRS, evaluation tools included *Hazard Ranking System Guidance Manual* and the *Guidance for Performing Site* (Refs. 2 & 3).

The scope of this Sampling and Analysis Plan (SAP) is to collect environmental media and waste for laboratory analysis, based on site conditions documented during the July 19, 2007 site reconnaissance, site conditions documenting during the February 24, 2010 site reconnaissance and information obtained from available file documentation. This SAP describes the locations, types and number of samples to be collected, the rationale for the collection or non-collection of samples, and procedures related to the sampling event. The trip report documenting the February 24, 2010 site reconnaissance is included as Appendix A (Ref. 4). The trip report documenting the July 19, 2007 site reconnaissance can be found in Appendix B of the December 2007 Preliminary Assessment Report (Ref. 5).

2.0 SITE DESCRIPTION

2.1 Site Location

The site is located at 1300 Brownwood Avenue, within the city limits of LaGrange, Troup County, Georgia, approximately one and one half (1½) miles southwest of the city square (Refs. 5 & 6), (see Appendix B, Attachment A: Photo 1 of 8 of PA Report). Geographical coordinates of the site reference point are approximately 33° 01' 22" North Latitude and 85° 03' 00" West Longitude, as measured from a point located near the northeast corner of the on-site fire pond [as depicted in the 1:24,000 scale 1964 LaGrange Quadrangle (Photo-revised 1982)]. The site location, site reference point and approximate site boundaries are depicted in Figure 1 of the PA Report.

Based upon available data for the time period extending from 1941 thru 1970, average annual rainfall for the Troup County area was approximately fifty-two (52) inches (Ref. 7). During that

same time period, average annual run-off for the area was approximately 18 inches. The site is not located within a most significant groundwater recharge area (Ref. 8). Located within the Piedmont Physiographic Province, the area of the site has a lower groundwater pollution susceptibility rating relative to other areas of Georgia such as the Valley and Ridge Physiographic Province and portions of the Coastal Plain Physiographic Province (Refs. 9 & 10).

The western portion of the site, including most of the on-site fire pond, is located within a one hundred (100) year flood plain associated with a tributary to Blue John Creek (Refs. 5 & 11). A 1982 Flood Insurance Rate Map identifies the tributary as Lee Branch (Ref. 11). A portion of the eastern side of the fire pond has been designated as an area between the limits of a one hundred (100) year flood and a five hundred (500) year flood. The remainder of the site (approximately 65% of the site's total area) has been designated as an area subject to minimal flooding (Refs. 5 & 11).

2.2 Site Description

Milliken & Company currently owns the site (Ref. 5). Headquartered in Spartanburg, South Carolina, the company operates over fifty-five (55) facilities worldwide and claims to be one of the largest privately held textile and chemical manufacturers in the world (Ref. 12).

Surrounded by private residences of the Hillside Community, the site is bounded to the north by Brownwood Avenue, bounded to the east by Lincoln Street, bounded to the south by Fourth Avenue and bounded to the west by the backyards of private residences located on Grant, Palm and Stonewall Streets (Ref. 5 & 13). The western boundary is the only site boundary not delineated by a paved street. The approximate site boundaries are depicted in Figures 1 and 2 of the PA Report.

Tax Parcel Numbers 060-2A-018-001 and 060-2A-018-002 comprise the majority of the site (Refs. 5, 13 & 14). At the time of the July 2007 site reconnaissance, a site representative confirmed that Milliken & Company had recently purchased a few private residential lots located on the west side of Palm Street, near the northwest corner of the site (Ref. 5). The homes associated with these private residential lots have since been demolished. For the purposes of this PA, the site is considered to be approximately thirty-four (34) acres in size (Refs. 13 & 14). Tax maps and a property record card for Parcel Number 060-2A-018-001 are included as Appendices C and D of the PA Report respectively.

The site occupies part of a hillside that slopes south towards Fourth Avenue (i.e., the southern boundary of the site), (Refs. 5 & 6). Originating just north of the site, Lee Branch (a tributary to Blue John Creek) flows southeast a short distance before entering the site via culvert underlying Brownwood Avenue (Refs. 5, 6 & 11), (see Appendix B, Attachment A: Photo 8 of 8 of the PA Report). Lee Branch is then conveyed south, via underground ancillary equipment, to a second culvert located near the northwest corner of the on-site fire pond (see Appendix B, Attachment A: Photo 2 of 8 of the PA Report). From that point, Lee Branch re-surfaces and flows southeast (between the fire pond and the site's western boundary) before exiting at the site's southwest corner (see Appendix B, Attachment A: Photos 3 & 4 of 8 of the PA Report).

The fire pond occupies much of the southwest quadrant of the site (Refs. 5 & 6), (see Appendix B, Attachment A: Photos 2 & 4 of 8). According to a 1921 Sanborn Fire Insurance Map, the fire pond has a capacity of six million (6,000,000) gallons (Ref. 15). A drop inlet trickle drainpipe

located within the fire pond facilitates maintenance of desired freeboard during times of normal rainfall (Ref. 5). The drainpipe, adjacent to the southwest corner of the fire pond, conveys excess surface water to an outfall pipe that discharges to nearby Lee Branch at the southwest corner of the site (see Appendix B, Attachment A: Photo 4 of 8). The fire pond is depicted in Figures 1 and 2 of the PA Report. Sections of the 1921 Sanborn Map are included as Appendix E of the PA Report.

During the July 2007 site reconnaissance, site representatives provided the following information related to the fire pond (Ref. 5):

- Referred to as a “Fire Pond,” the impoundment provides water for fire protection;
- Surface water run-off is the source of the fire pond;
- Wastewaters generated on-site are not currently discharged to the fire pond;
- On average, overflow of the impoundment occurs every two (2) to three (3) years;
- The most recent overflow occurred approximately one and one half (1½) years ago;
- The impoundment has not been known to dry up; and
- Turtles and snakes (possibly water moccasins) currently inhabit the impoundment.

Based upon site topography, the fire pond was likely constructed as an embankment pond (Refs. 5 & 6). Common in areas of moderate to steep sloping terrain, embankment ponds collect and hold surface water run-off via construction of a dam between two (2) hillsides (Ref. 16). Unless significant silting has occurred, it is expected that the depth of the surface impoundment would generally increase from a north to south direction.

All site-generated run-off enters Lee Branch (Refs. 5 & 6). Most site run-off, including overflows from the fire pond, exits the site at the site’s southwest corner via Lee Branch (see Appendix B, Attachment A: Photo 4 of 8 of the PA Report). However, some site run-off is conveyed from the site’s southeast corner (via underground storm water line) to an outfall that discharges to Lee Branch approximately one hundred (100) feet downstream of the site’s southwest corner (Refs. 5 & 17).

An average of one hundred fifty six thousand (156,000) gallons of wastewater is discharged daily to the city sewer system (Ref. 17). Prior to sewer discharge, wastewater generated from on-site operations is pH adjusted (if necessary) within a sixteen thousand eight hundred and seven (16,807) gallon concrete neutralization basin (Refs. 5 & 18), (see Appendix B, Attachment A: Photo 5 of 8 of the PA Report). Used in the neutralization process, two (2) two hundred fifty (250) gallon reagent tanks [one (1) containing caustic soda, one (1) containing acetic acid] are located immediately adjacent to the neutralization basin. Continuous pH monitoring occurs within the neutralization basin (Ref. 5). Due to the presence of acids in yarns, it is currently more common to increase the pH of wastewater by the addition of caustic soda than it is to lower

the pH by the addition of acetic acid. Point source wastewater pre-treatment occurs at machines that generate wastewater prior to conveyance to the neutralization basin.

Two (2) twelve thousand (12,000) gallon metal aboveground storage tanks are located in the general vicinity of the above described neutralization basin (Refs. 5 & 18), (see Appendix B, Attachment A: Photo 6 of 8 of the PA Report). The tanks are used to contain wastewater generated from on-site processes prior to pH adjustment within the neutralization basin (Ref. 5). Wastewater within the tanks can contain Zinc, Formaldehyde, Ammonia and Latex Waste, and under certain circumstances it is necessary to containerize the wastewater in drums for off-site disposal rather than discharge to the city sewer system.

Four (4) ten thousand (10,000) gallon metal aboveground storage tanks comprising a tank farm are located near the site's northeast corner (Refs. 5 & 18), (see Appendix B, Attachment A: Photo 7 of 8 of the PA Report). At the time of the July 2007 site reconnaissance, a site representative indicated that Toluene was stored in one (1) tank with the remaining three (3) tanks being empty (Ref. 5).

Toluene is used to dissolve silicone in the manufacture of automobile air safety bags (Ref. 5). At the time of the July 2007 site reconnaissance, the smell of organic vapor was evident in a room where a toluene/silicone mixture is coated onto fabric. A site representative stated that due to the lowering of the Permissible Exposure Level (PEL) for toluene, modifications were recently made to reduce the amount of toluene vapors available for human exposure inside the room. At the time of the reconnaissance, one (1) individual was observed working in the room. An air permit is associated with a thermal oxidation process that is designed to limit the amount of organic vapors discharged to the atmosphere.

At the time of the July 2007 site reconnaissance, two (2) covered roll-off boxes were observed on the east side of the site near Lincoln Street (Ref. 5). According to a site representative, the plant roof was being re-decked and the roll-off boxes contained wood debris that was possibly painted with lead-based paint. As a conservative measure, the roll-off boxes were lined, covered and labeled as "Hazardous Waste" until analytical results became available that indicated otherwise. For the purposes of this PA, the combined volume of the two (2) roll-off boxes is estimated to be approximately eighty (80) square yards. At that same time/location, the smell of organic vapor was evident in the area, similar to the odor previously described in the room where a toluene/silicone mixture was coated onto fabric (Ref. 5).

At the time of the July 2007 site reconnaissance, a walk around the site perimeter did not reveal any areas of stained soil or stressed vegetation (Ref. 5). A six (6) to eight (8) foot chain-link fence restricts physical access to most areas of the site (other than parking lots), however, the on-site portion of Lee Branch has unlimited access.

Near the southeast corner of the site, on the opposite side of Fourth Avenue (i.e. south side), a brick building was observed at the time of the July 2007 site reconnaissance that looked similar in age to some of the older on-site buildings (Ref. 5). A site representative stated that the building was currently owned by Milliken & Company and was currently vacant, however, a company laboratory had previously operated at that location until a few years ago.

Although not observed during the 2007 site reconnaissance, information obtained from a site representative confirmed the on-site presence of one (1) two hundred thousand (200,000) gallon above ground storage tank (currently not in use) and one (1) one hundred thousand (100,000) gallon above ground storage tank containing Number Six (6) Fuel Oil (Ref. 18).

The site is organizationally subdivided into the Hillside Plant, the Valway Plant and the Hillside Coating Plant (a further subdivision of the Valway Plant), (Ref. 5). In sum, the three (3) contiguous plants comprise the site. Plant specific operations are described as follows:

- Hillside Plant

Operations at the Hillside Plant focus on the manufacture of carpet (Ref. 5). Bales of nylon fibers are received which may be dyed with acid dyes in one (1) of two (2) continuous dye ranges (Ref. 19). The fiber is then spun into yarn and subsequently heated to add “memory” in a process known as heat setting. Finally, the yarn is tufted to a substrate before being transported to another facility for further processing. Currently, approximately five percent (5%) of all yarns are dyed at this location (Ref. 5).

- Valway Plant

The main products manufactured at the Valway Plant include industrial textiles, abrasives, lawn mower grass bags, tire ingredients and automobile safety bags (Ref. 5). Broad woven fabrics are finished on six (6) finishing ranges that may include one or more chemical application pads, scouring boxes and ovens in addition to textile handling and auxiliary equipment (Ref. 20). The chemical application process consists of dip pans and/or coaters. The scouring boxes consist of equipment design to clean or scour textiles with water or an aqueous based solution. Ovens are used for drying and/or heat setting.

- Hillside Coating Plant

At the Hillside Coating Plant, a polymeric coating is compounded and pelletized before being dissolved in solvent (Ref. 21). Curing agents are then added before the polymeric/solvent mixture is applied to fabric in a coating range. After the coating process, powder is applied to keep the fabric from sticking together before final curing in a curing range.

The site is the permittee of five (5) environmental permits as follows:

- Wastewater Discharge Permit No. 101 (Applies to Entire Site)

Issued by the City of LaGrange (in accordance with the provisions of the City of LaGrange Sewer Use Ordinance), this permit authorizes the site to discharge industrial wastewater to the city sewer system (Ref. 22). The discharge permit regulates biochemical oxygen demand, total zinc, total silver, total phenols, total suspended solids, color, oil and grease, total copper, flow and pH in wastewaters discharged to the sewer system.

- Storm Water Discharge General Permit No. GAR000000 (Applies to Entire State of Georgia)

Issued by the Watershed Protection Branch of the GA EPD (in accordance with the provisions of the Georgia Water Quality Control Act and the Georgia Rules for Water Quality Control), this permit authorizes the site to discharge storm water associated with on-site industrial activity to waters of the State of Georgia under the National Pollution Discharge Elimination System (Ref. 23). The site is one (1) of over two thousand (2,000) industrial facilities that are authorized to discharge storm water under this single general permit (Ref. 24).

- Air Permit No. 2281-285-0040-V-02-0 (Applies to Hillside Plant)

Issued by the Air Branch of the GA EPD (in accordance with the provisions of the Georgia Air Quality Act and the Georgia Rules for Air Quality Control), this permit authorizes the Hillside Plant to operate a facility that manufactures yarn, tufted carpet and non-woven material (Ref. 19).

- Air Permit No. 2262-285-0045-V-01-0 (Applies to Valway Plant)

Issued by the Air Branch of the GA EPD (in accordance with the provisions of the Georgia Air Quality Act and the Georgia Rules for Air Quality Control), this permit authorizes the Valway Plant to operate a facility that prepares and finishes fabrics on textile ranges (Ref. 20).

- Air Permit No. 3069-285-0082-V-01-0 (Applies to Hillside Coating Plant)

Issued by the Air Branch of the GA EPD (in accordance with the provisions of the Georgia Air Quality Act and the Georgia Rules for Air Quality Control), permit authorizes the Hillside Coating Plant to operate a fabric coating facility (Ref. 21).

The environmental permits are included as Appendices B (Attachment B) and G thru J of the PA Report.

2.3 Operational History and Waste Characteristics

2.3.1 Operational History

Built in 1915 by textile magnate Fuller E. Callaway (1870 – 1928), the site was the seventh (7th) textile mill built in LaGrange, Georgia (Ref. 25). Three (3) color lithographic postcards dating from 1910 depict different views of the “Hillside Cotton Mills,” one (1) of which refers to the surrounding residential area as a “Village” (Ref. 26). The postcards are included as Appendix M of the PA Report. It is unclear whether the lithographic images were derived from photographs, therefore, the postcards may pre-date actual site construction or are improperly dated. Regardless, textile manufacturing has occurred on-site for a time period exceeding ninety (90) years, the majority of which pre-dated the promulgation of any environmental regulation (Refs. 25 & 26).

Depicted on a 1921 Sanborn Fire Insurance Map, the following physical descriptions of the site are considered representative of that earlier time period (Ref. 15), (see Appendix E of the PA Report):

- Residences of The Hillside Community surrounded the site (as currently);
- The site was bounded by Brownwood Avenue, Lincoln Street, Fourth Avenue and the backyards of private residences located on Grant, Palm and Stonewall Streets (as currently except for the recent demolition of some of the houses on Palm Street);
- Most of the current site development existed;
- The fire pond existed;
- The fire pond was labeled as a “Reservoir” of six million (6,000,000) gallon capacity; and
- A structure located just north of the fire pond was labeled “Dye House.”

At the time of the July 2007 site reconnaissance, it was determined that the Dye House depicted in the 1921 Sanborn Map no longer existed (Ref. 5). Asphalt, concrete and part of another building now cover the approximate area where the Dye House was located. A site representative stated that dying more recently occurred within the general vicinity of the former Dye House, however, it occurred at least twelve (12) years ago, within dying kettles, in a different building that was demolished sometime around the year 2000.

A photographic image taken in 1933 depicts a topographic depression in the area where the on-site fire pond is located (Ref. 27). The image is included as Appendix N of the PA Report. At that time, the fire pond may have been temporarily drained. Unauthenticated information obtained from a former site employee suggests that the fire pond has been drained in the past, and that during one such drainage event (unknown date), rusted drums and other debris were discovered at the bottom of the pond (Ref. 28).

In and around 1956/1957, a current and past nearby resident recalled that the normally clear running Lee Branch that exits the site under Fourth Avenue frequently became murky and exhibited a strong chemical smell (Ref. 29).

Milliken & Company purchased the site from Callaway Mills in 1968 (Ref. 25).

On April 18, 2002, the site reported to the GA EPD an un-permitted discharge of an estimated sixty (60) gallons of wastewater containing a non-hazardous textile-finishing chemical described as an “acrylic emulsion containing carbon black” (Ref. 30). Due to a breach in a clay pipe underlying the Valway Plant, wastewater normally conveyed to the municipal sewer system was diverted to a nearby underground storm water line that led to an outfall on Lee Branch approximately one hundred (100) feet downstream from Fourth Avenue (Ref. 17). The result was a discoloration of Lee Branch, for approximately one (1) mile downstream of the site, to a point at or near Blue John Creek (Ref. 30). Based upon information obtained from the site, the following four (4) products (*trade name in italics*) were released to Lee Branch during the April 18, 2002 un-permitted discharge (Ref. 17):

- *Millitex Black GBB* – a pigment dispersion product containing Diethylene Glycol, Isopropanol, Ammonium Hydroxide and Carbon Black;

- *Sandolube NVS Liquid* – an aqueous paraffin emulsion product containing Paraffin Wax, Ethoxylated C12-20 Alcohols and Alpha-Octadecyl-Omega-Hydroxy-Poly(Oxy-1,2-Ethanedyl); ethoxylated compound;
- *Triton GR-5M Surfactant* – a surfactant product containing 1,4-Bis(2-Ethylhexyl) Sodium, Sulfosuccinate and Isopropanol; and
- *WRL E1137* – an aqueous polymer dispersion product containing Polymer/Solids and Formaldehyde.

Material Safety Data Sheets for the above referenced four (4) products are included in Appendix F of the PA Report.

In accordance with the Georgia Rules for Hazardous Waste Management, results of three (3) recent Compliance Evaluation Inspections (CEIs) conducted at the site by the GA EPD Hazardous Waste Management Branch are as follows:

- October 22, 1998 CEI – No violations of the Rules were determined (Ref. 31).
- October 9, 2003 CEI – No violations of the Rules were determined (Ref. 31).
- March 15, 2006 CEI – The following four (4) violations of the Rules were determined (Refs. 31 – 33):
 1. Section 391-3-11-.08(1) of the Rules [equivalent to 40 CFR 262.11] for failure to conduct a hazardous waste determination on broken mercury-containing lamps.
 2. Section 391-3-11-.10(1) of the Rules [equivalent to 40 CFR 265.52(d)] for failure to list the home addresses of emergency coordinators.
 3. Section 391-3-11-.18 of the Rules [equivalent to 40 CFR 273.13(d)(1)] for failure to keep closed two (2) boxes of used mercury-containing lamps when not in use.
 4. Section 391-3-11-.18 of the Rules [equivalent to 40 CFR 273.14(e)] for failure to label one (1) box of used mercury-containing lamps as “Used Lamps.”

The GA EPD formally notified the site in writing of the above referenced violations in a Notice of Violation (NOV) dated May 25, 2006 (Ref. 33). In correspondence dated June 21, 2006, the site responded to the NOV by describing the manner in which the violations had been corrected (Ref. 34). In correspondence dated July 12, 2006, the GA EPD formally acknowledged that the site had adequately addressed the violations (Ref. 35). The associated Generator Inspection Report, NOV, Response to NOV and Compliance Status Letter are included as Appendices S thru V of the PA Report.

2.3.2 Waste Characteristics

Contaminants of concern historically associated with the textile industry include spent solvents, spent surfactants, polychlorinated biphenyls (PCBs) from transformers and other machinery, asbestos from spinning machines or historic structures, bleaching products, phosphates from detergents, insecticides, phenols (manmade substances used to make synthetics such as nylon), underground storage tank contents, waste oil, other petroleum products and heavy metals (Ref. 36). In addition to being found inherently in natural fibers such as cotton, heavy metals have been historically used in textile mills as oxidizers for vat and sulfur dyes, after treatment of direct dyes, metal catalyst for curing resins, finishes, dye stripping agents and various classes of dyes (Ref. 37). Arsenic, Cadmium, Chromium, Copper, Lead, Mercury and Zinc are all found in six (6) common dye classes that include: acid, basic, direct, disperse, fiber reactive and vat dyes.

The textile industry consumes large amounts of water and generates large quantities of wastewater (Ref. 38). Wastewater from printing and dyeing operations, often rich in color due to dye residues and other chemicals, requires proper treatment before release to the environment. It is widely accepted that untreated wastewater generated by the textile industry can be toxic to both human health and the environment (Refs. 38 & 39).

Each of the three (3) contiguous plants comprising the site has most recently notified as a generator of Resource Conservation and Recovery Act (RCRA) hazardous waste as follows:

- Hillside Plant

Assigned EPA Identification Number GAD 080 090 889, the Hillside Plant notified as a Small Quantity Generator (SQG) of hazardous waste (Ref. 40). A SQG generates from two hundred twenty (220) pounds to two thousand two hundred (2,200) pounds of hazardous waste per calendar month (Ref. 41).

- Valway Plant

Assigned EPA Identification Number GAD 000 821 835, the Valway Plant notified as a Small Quantity Generator (SQG) of hazardous waste (Ref. 40). Types of hazardous waste generated at the Valway Plant include (or have included) EPA Waste Codes D001, F003, F005, U007, U188 and U220. Hazardous substances associated with these waste codes include (but are not limited to) Acrylamide, Methyl Ethyl Ketone, Phenol and Toluene (Ref. 41).

- Hillside Coating Plant

Assigned EPA Identification Number GAD 981 275 993, the Hillside Coating Plant notified as a Large Quantity Generator (LQG) of hazardous waste (Ref. 40). A LQG generates more than two thousand two hundred (2,200) pounds of hazardous waste per calendar month (Ref. 41). Types of hazardous waste generated at the Hillside Coating Plant include (or have included) EPA Waste Codes D001, D008, D009, D035, F003, F005, U057, U116, U154, U220 and U239 (Ref. 40). Hazardous substances associated with these waste codes include (but are not limited to) Cyclohexanone, Ethylene Thiourea, Lead, Mercury, Methanol, Methyl Ethyl Ketone, Toluene and Xylene (Ref. 41).

At the time of the July 2007 site reconnaissance, a site representative estimated that thirty (30) to forty (40) fifty-five (55) gallon drums (or 10,000 to 20,000 pounds) of hazardous waste containing Toluene and Methyl Ethyl Ketone were shipped off-site per calendar month (Ref. 5). Additionally, fifty (50) to one hundred (100) fifty-five (55) gallon drums (or 40,000+ pounds) of non-hazardous waste were shipped off-site per calendar month. For the purposes of this PA, an average of thirty-five (35) drums of hazardous waste and seventy-five (75) drums of non-hazardous waste are shipped off-site per calendar month.

In calendar year 2005, the Hillside Coating Plant reported that it generated one hundred seventy-three thousand three hundred and ninety-five (173,395) pounds of *RQ Waste Toluene Mixture, 3, UN1294, II* (EPA Waste Codes D001, F003, F005 and U220), all of which was shipped off-site to Clean Harbors Environmental Services located in El Dorado, Arkansas (Refs. 42 & 43).

Also in calendar year 2005, the site reported that a total of fourteen thousand one hundred and ninety-five (14,195) pounds of Toluene emissions were released from the site, four hundred nine (409) pounds from non-point fugitive emissions and thirteen thousand seven hundred eighty-six (13,786) pounds from stack emissions (Ref. 44).

At the time of the July 2007 site reconnaissance, the following wastes were observed at the Valway Plant/Hillside Coating Operations (Ref. 5):

- One (1) 55-gallon drum of latex waste labeled “Non-Hazardous Waste” within an area designated as a Satellite Accumulation Point (SAP). According to a site representative, a total of seven (7) such SAPs were currently in existence.
- One (1) 5-gallon bucket of waste alkaline batteries labeled “Universal Waste.”
- Four (4) 55-gallon drums of latex waste labeled “Non-Hazardous Waste” within a designated storage area.
- Ten (10) boxes of waste fluorescent bulbs labeled “Universal Waste” within a designated storage area.
- Five (5) 5-gallon buckets of waste batteries and ballasts labeled “Universal Waste” within a designated storage area.
- One (1) 55-gallon drum of broken tubes labeled “Hazardous Waste” within an area conspicuously designated as a SAP.
- Approximately thirty (30) 55-gallon drums labeled “Hazardous Waste, D001, F003, F005, U220” within a designated storage area.

For the purposes of this SAP, the following are considered on-site areas where a hazardous substance potentially may have been deposited, stored, disposed or placed (including soil or sediment that may have become contaminated as a result of hazardous substance migration), (Refs. 3, 5, 15 & 18):

- One (1) sixteen thousand eight hundred and seven (16,807) gallon concrete neutralization basin;
- One (1) two hundred and fifty (250) gallon aboveground storage tank containing acetic acid;
- One (1) two hundred and fifty (250) gallon aboveground storage tank containing caustic soda;
- Two (2) twelve thousand (12,000) gallon aboveground storage tanks containing Zinc wastewater;
- Four (4) ten thousand (10,000) gallon aboveground storage tanks [one (1) currently containing Toluene];
- Two (2) forty (40) cubic yard roll off boxes containing wood debris possibly contaminated with lead;
- One (1) two hundred thousand (200,000) gallon aboveground storage tank currently not in use (it is unknown whether the tank currently contains any residual waste material);
- One (1) one hundred thousand (100,000) gallon aboveground storage tank currently containing Number Six (6) Fuel Oil;
- Approximately five (5) acres of the site not covered by buildings, paving or the on-site surface water impoundment (i.e., penetrable cover that includes, but is not limited to, landscaped areas, bare soil and Lee Branch sediments);
- Thirty-five (35) fifty-five (55) gallon metal drums containing liquid hazardous waste (average volume shipped off-site per calendar month); and
- Seventy-five (75) fifty-five (55) gallon metal drums containing liquid non-hazardous waste (average volume shipped off-site per calendar month).

Figure 2 of the PA Report depicts the locations of the above referenced potential source areas except the fifty-five (55) gallon metal drums. The drum locations are not depicted in Figure 2 because the specified number of drums represent the average number shipped off-site per calendar month, drums containing waste are distributed within buildings throughout the site and the Global Positioning System (GPS) unit employed during the July 2007 site reconnaissance was not functional inside buildings (Ref. 5).

3.0 WASTE/SOURCE SAMPLING

3.1 Sample Locations

Please refer to Table 1 of this SAP for a listing of all proposed samples. Figure 1 of this SAP depicts the approximate locations of soil samples to be collected. The following describes the location, description and objective of each waste/source sample:

STA-14-WL (source characterization): Wastewater collected from concrete neutralization basin located on-site (point of discharge to city sewer system (to determine whether hazardous substances are present in this waste stream).

STA-15-WL (source characterization): Wastewater collected from one of two 12,000 gallon above ground tanks located on-site (containing zinc wastewater), (to determine whether hazardous substances are present in this waste stream)

STA-16-WS (source characterization): Paint chips collected from within multi-story vacant brick building associated with defunct water treatment plant located south of Forth Street (to determine whether hazardous substances are present in this waste stream).

STA-17-SS (surface background): Surface soil sample (hereinafter: 0 – 2 feet below ground surface) collected off-site, near NW corner of site, north of Brownwood Avenue, in an up-gradient area not suspected to have been affected by on-site operations (to determine whether hazardous substances not attributable to the site are present in this area). However, at the time of the sampling event, the GA EPD may elect to move this background location to Granger Park, a city operated park located approximately two (2) miles northeast of the site (see Appendix A, Attachment B: Location of Granger Park, LaGrange, Georgia).

STA-17-SUB (subsurface background): Subsurface soil sample (hereinafter: below 2 feet of ground surface) collected off-site, near NW corner of site, north of Brownwood Avenue, in an up-gradient area not suspected to have been affected by on-site operations (to determine whether hazardous substances not attributable to the site are present in this area). However, at the time of the sampling event, the GA EPD may elect to move this background location to Granger Park, a city operated park located approximately two (2) miles northeast of the site (see Appendix A, Attachment B: Location of Granger Park, LaGrange, Georgia).

STA-18-SS (release and source characterization): Surface soil collected on-site, from the vicinity of tank farm located at NE corner of site (tank contains Toluene), to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-19-SS (release and source characterization): Surface soil collected on-site near eastern boundary of site, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-20-SS (release and source characterization): Surface soil collected on-site, near SE corner of site, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-21-SS (release and source characterization): Surface soil collected off-site, on Tax Parcel 12, to determine whether hazardous substances at least partially attributable to the site have migrated off-site to residential property.

STA-22-SS (release and source characterization): Surface soil collected on-site, between the fire pond and Lee Branch, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-23-SS (release and source characterization): Surface soil collected off-site, on Tax Parcel 7, to determine whether hazardous substances at least partially attributable to the site have migrated off-site to residential property.

STA-24-SS (release and source characterization): Surface soil collected on-site, immediately west of Lee Branch near private residences, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-24-DUP (QA/QC): Duplicate of STA-24-SS.

STA-25-SS (release and source characterization): Surface soil collected off-site, on Tax Parcel 2, to determine whether hazardous substances at least partially attributable to the site have migrated off-site to residential property.

STA-26-SS (release and source characterization): Surface soil collect on-site, in vicinity of old dye house, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-26-SUB (source characterization): Subsurface soil collect on-site, in vicinity of old dye house, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-27-SS (release and source characterization): Surface soil collect on-site, in vicinity of old dye house, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-27-SUB (source characterization): Subsurface soil collect on-site, in vicinity of old dye house, to determine whether hazardous substances at least partially attributable to the site are present at this location.

4.0 GROUNDWATER MIGRATION PATHWAY

4.1 Hydrogeology

The site is located in the southern section of the Piedmont Physiographic Province, within an area designated as the Greenville Slope District (Ref. 45). Topography in the southern section of the Piedmont is characterized by broad rolling upland or plateau as opposed to the low rolling hills found in the northern section (Ref. 46). The study area is characterized by gently rolling topography dissected by numerous surface water streams, most of which exhibit a dendrite drainage pattern similar to the branching of trees (Refs. 5, 6, 45, 47 & 48).

The Piedmont Physiographic Province is characterized by bedrock overlain with a regolith of varying thickness (Ref. 47). The bedrock of the Piedmont consists of complex sequences of igneous rocks (of Precambrian to Paleozoic age) and metamorphic rocks (of late Precambrian to Permian age), collectively known as crystalline rocks (Refs. 47 & 49). Located above the bedrock, the regolith of the Piedmont consists of semi-consolidated to unconsolidated weathered rock (i.e., saprolite), soil and other surficial deposits (Ref. 47). Depending upon the specific parent rock, the

regolith ranges in thickness from a few feet to more than one hundred fifty (150) feet. In some areas, a transition zone occurs between the bedrock and regolith.

Water-bearing units of the Piedmont Physiographic Province include the surficial regolith unit and the deeper bedrock unit (Ref. 47). The regolith unit may consist of soil, alluvium, colluvium and saprolite. Porosity ranging from twenty (20) to thirty (30) percent is typical in the regolith unit (Ref. 50). The deeper bedrock unit may consist of quartzite, slate, gneiss, schist, marble, phyllite, granite and amphiolite (Ref. 47). The bedrock unit is poorly permeable, with little if any primary porosity [i.e., less than two (2) percent]. Water-bearing zones within the bedrock unit occur along geologic features that produce openings such as lithologic contacts, foliation, joints, fractures, faults, folds, quartz veins and pegmatites. The bedrock unit is unconfined and recharged from groundwater stored in the overlying regolith unit (Ref. 51). For the purposes of this PA, all water-bearing units underlying the site and the study area are considered a single interconnected aquifer.

Domestic water supply is the largest use category of groundwater in the Middle Chattahoochee River basin in Georgia (Ref. 47). Other groundwater uses in this area include public water supply, agricultural and self-supplied industrial and/or commercial. Groundwater is obtained from either shallow, bored wells that are completed in the regolith or deeper, drilled wells that are completed in the bedrock. Wells completed in the shallower regolith are more susceptible to contamination and to water table decline during times of drought. The potential currently exists, especially under current drought conditions, for further development of groundwater resources within the study area.

4.2 Groundwater Migration Targets

The site-specific groundwater Target Distance Limit (TDL) is limited to that area located within four (4) miles of the designated site reference point (Refs. 3 & 4). Only those groundwater targets located within the groundwater TDL are considered for the purposes of this PA. The site reference point and the groundwater TDL are depicted in Figure 3 of the PA Report.

4.2.1 Target Population, Nearest Well and Wellhead Protection Area

There are no known municipal wells located within the groundwater TDL (Refs. 5 & 52). Further, no wells associated with other permitted drinking water systems are known to occur within the groundwater TDL (e.g., trailer park system, state park, etc.). Accordingly, there are no designated Wellhead Protection Areas located within the groundwater TDL. The City of LaGrange, Georgia obtains its municipal water supply from surface water bodies (Refs. 53 & 54). The city drinking water system is further discussed in Section 4.2.1.1 of this report (Drinking Water Threat – Intakes). Based upon information obtained from the 1990 Census of Population and Housing, one thousand five hundred and four (1,504) individuals obtain drinking water from domestic wells located within the groundwater TDL (Ref. 55). Domestic well information was not collected as part of the 2000 Census (Ref. 56). The 1990 Census further indicates that four (4) domestic wells are located between one quarter ($\frac{1}{4}$) and one half ($\frac{1}{2}$) mile of the site reference point (Ref. 55). There are no other domestic wells located closer to the site reference point. The number of domestic wells and population on domestic wells (per concentric distance category) are set forth in Table 1 of the PA Report.

4.2.2 Resources

For the purposes of this SI, the beneficial use of groundwater for purposes other than drinking water (e.g., irrigation of commercial food crops, watering of commercial livestock, as an ingredient in commercial food preparation or as a water supply for commercial aquaculture) was not positively confirmed to currently occur within the groundwater TDL.

4.3 Groundwater Sample Locations

The GAEPD does not propose the collection of any groundwater samples as there are no drinking water wells located within one quarter (¼) mile the site reference point (Refs. 52 & 55).

5.0 SURFACE WATER MIGRATION PATHWAY

5.1 Hydrology

Located within the Chattahoochee River Basin, the Troup County area received approximately fifty-two (52) inches of average annual rainfall for the time period extending from 1941 thru 1970 (Ref. 7). Pursuant to Section 4.0.2 of the HRS, intermittently flowing waters are not considered surface water bodies in areas that receive twenty (20) or more inches of mean annual precipitation (Ref. 1).

The site-specific hydrologic setting is sub-divided into the Overland Run-Off Route (Overland Segment) and the Surface Water Target Distance Limit (In-Water Segment) as follows:

5.1.1 Overland Run-off Route

The Overland Run-Off Route (OROR) is the migration route that run-off would follow from a particular on-site source to a perennial surface water body (Refs. 1 & 2). Further, any point at which site run-off enters a perennial surface water body is considered a Point of Probable Entry (PPE).

The site-specific OROR encompasses sections of three (3) intermittent streams that convey site run-off to the perennial Blue John Creek (Refs. 5, 6, 11, 47 & 58). The streams are identified on a 1982 Flood Insurance Rate Map as Lee Branch, Park Branch and Atlanta Branch (Ref. 11). The OROR route is further described as follows (Refs. 5, 6, 11 & 17):

- All site run-off enters Lee Branch.
- The furthest downstream point at which site run-off enters Lee Branch is located approximately one hundred (100) feet south or downstream of Fourth Avenue (near the site's southwest corner) at a storm water outfall.
- From the southwest corner of the site, Lee Branch flows generally southeast for approximately one-half (½) mile before converging with Park Branch.

- From the point of confluence of Lee Branch and Park Branch, Park Branch flows generally south for approximately five hundred (500) feet before converging with Atlanta Branch.
- From the point of confluence of Park Branch and Atlanta Branch, Atlanta Branch flows generally south for approximately one-half (½) mile before converging with the perennial Blue John Creek.
- The Point of Probable Entry (PPE) is located at the confluence of Atlanta Branch (intermittent) and Blue John Creek (perennial).
- The total length of the OROR is approximately one (1) mile.

Despite the perennial designations set forth in the USGS Topographic Map, for the purposes of this PA, flow conditions within the before described OROR are considered intermittent based upon the following information:

- During the July 2007 site reconnaissance (Ref. 5):
 1. The portion of Lee Branch immediately north of the site was limited to intermittent puddles.
 2. The on-site portion of Lee Branch exhibited a low flow volume.
 3. A site representative stated that approximately nine (9) years ago, the on-site portion of Lee Branch consisted of just a few intermittent puddles.
 4. A site representative stated that Lee Branch drains approximately 254 acres of land immediately north of the site (i.e., a relatively limited watershed area).
- From its origin north of the site, the USGS Topographic Map designates Lee Branch as an intermittent stream, until approximately twelve hundred (1200) feet upstream of the site, where the USGS designation changes to perennial (Ref. 6).
- From its origin north of the site, Lee Branch flows approximately one and one-half miles (1½) miles (a relatively short course), before converging with Park Branch (Ref. 6).
- The Lee Branch watershed is relatively limited in area (Refs. 5 & 6).
- At any particular time, the flow volume within Lee Branch would not be expected to vary appreciably (due to its short course and relatively limited watershed area), (Refs. 5 & 6).
- It is not suspected that Lee Branch is fed by a natural spring.
- Despite the area receiving approximately one (1) inch of rain in late October 2007, there was no visible flow in Lee Branch at the site on or near November 8, 2007 (Ref. 59). Only puddles of water existed with areas between puddles remaining damp. An algae-like growth was observed on the surface of some of the puddles.

- The physical conditions of Park Branch and Atlanta Branch are considered similar to those described above for Lee Branch (Refs. 6 & 11).

The OROR and PPE are depicted in Figure 4 of the PA Report.

5.1.2 Target Distance Limit

The surface water Target Distance Limit (TDL) is the migration route that site generated run-off would follow from the point it enters a perennial surface water body [i.e., Point of Probable Entry (PPE)], to a point fifteen (15) miles downstream (Refs. 1 & 2).

The site-specific surface water TDL is completely encompassed by perennial sections of Blue John Creek and Long Cane Creek (Refs. 5, 6, 47, 48 & 58). West Point Lake and the Chattahoochee River are not included (Refs. 5, 6 & 48). The surface water TDL is further described as follows (Refs. 5, 6, 47, 48, 58):

- From the before described PPE (see Section 4.1.1 above), Blue John Creek flows generally southwest for approximately three point two (3.2) miles before converging with Long Cane Creek.
- From the point of confluence of Blue John Creek and Long Cane Creek, Long Cane Creek flows generally southwest for approximately eleven point eight (11.8) miles before the surface water TDL terminates at fifteen (15) miles downstream of the PPE.
- From the surface water TDL termination point, Long Cane Creek flows generally south for approximately one (1) mile before converging with the Chattahoochee River below West Point Lake.

Based upon drainage area, average annual flow rates within the TDL were estimated by the United States Geological Survey as follows (Ref. 58):

- From the PPE to its confluence with Long Cane Creek, Blue John Creek transitions from a minimal stream [less than ten (< 10) cubic feet per second] to a small to moderate stream [ten (10) to one hundred (100) cubic feet per second]. Average annual flow rates within the Blue John Creek section of the TDL are estimated to range from approximately nine (9) cubic feet per second to approximately twenty-nine (29) cubic feet per second.
- From its confluence with Blue John Creek to the surface water TDL termination point, Long Cane Creek transitions from a small to moderate stream [ten (10) to one hundred (100) cubic feet per second] to a moderate to large stream [less than one hundred (100) to one thousand (1,000) cubic feet per second]. Average annual flow rates within the Long Cane Creek section of the surface water TDL are estimated to range from approximately seventy-three (73) cubic feet per second to approximately one hundred eight (108) cubic feet per second.

Based upon drainage area, estimated average annual flow rates of Blue John Creek and Long Cane Creek are further set forth in Table 2 of the PA Report (Ref. 58).

Blue John Creek and Long Cane Creek are considered impaired streams because they do not fully support the use of fishing designated by the State of Georgia (Ref. 60). More specifically, Blue John Creek only partially supports fishing due to the presence of fecal coliform bacterial that is potentially caused by urban run-off and/or urban effects. Long Cane Creek does not support fishing due to the presence of fecal coliform bacterial and unspecified impacted biota that is potentially caused by urban run-off and/or urban effects. The “does not support fishing” designation does not imply that fish are not present, or that fish are not taken for human consumption.

The PPE and surface water TDL are depicted in Figures 5 and 6 of the PA Report.

5.2 Surface Water Migration Targets

For the purposes of this SI, only surface water targets located within the surface water TDL are considered (Refs. 1 & 2). Surface water targets are sub-divided into the Drinking Water Threat, the Human Food Chain Threat and the Environmental Threat as follows:

5.2.1 Drinking Water Threat

There is no known drinking water intake located within the surface water TDL (Refs. 52 - 54). Permit No 141-1292-01 (Modified), issued by the GA EPD, authorizes the City of LaGrange to withdraw surface water from West Point Lake for the purpose of a municipal water supply (Ref. 53). Permit No. CS2850001, also issued by the GA EPD, authorizes the City of LaGrange to operate a public drinking water system using surface water as the principal source of supply (Ref. 54). Permitted sources of raw water for the municipal drinking water system are West Point Lake and the Chattahoochee River.

For the purposes of this SI, the beneficial use of surface water for purposes other than drinking water (such as irrigation, watering of commercial stock, as an ingredient in commercial food preparation, major or designated water recreation area or as a potential drinking water supply) was not positively confirmed to currently occur within the surface water TDL.

5.2.2 Human Food Chain Threat

Pursuant to Section 391-3-6-.03(14) of the Georgia Rules for Water Quality Control (Specific Water Use Classifications), both Blue John Creek and Long Cane Creek are classified as “Fishing” (Ref. 61). The fishing classification is scientifically determined to be the best utilization of the creeks.

A twenty-seven (27) year employee of the City of LaGrange Office of Water Pollution Control familiar with Long Cane Creek did not believe that the creek currently supported large numbers of fish (Ref. 62). That same employee has never observed anyone fishing on Long Cane Creek. A site representative, who regularly fishes West Point Lake, was not aware of any fishing that occurred within Long Cane Creek (Ref. 5).

For the purposes of this SI, the human consumption of food chain organisms obtained from the surface water TDL was not positively confirmed to currently occur within the surface water TDL.

5.2.3 Environmental Threat

5.2.3.1 Wetlands

Significant qualifying wetland frontage exists within the surface water TDL (Refs. 5, 6 & 63). Three point seven (3.7) frontage miles of combined Palustrine System Emergent, Forested and Scrub-Shrub Wetlands exist within the Blue John Creek section of the TDL. Fifteen point six (15.6) frontage miles of combined Palustrine System Emergent, Forested and Scrub-Shrub Wetlands exist within the Long Cane Creek section of the TDL. Qualifying wetland frontage located within the surface water TDL is depicted in Figure 6 of the PA Report.

5.2.3.2 Aquatic Sensitive Environments

The following three (3) aquatic sensitive environments have been reported to occur in Troup County, Georgia:

- Green Pitcher Plant (*Sarracenia oreophila*)

Designated by the United States Federal Government (and the State of Georgia) as an endangered plant species, the Green Pitcher Plant (also known as the Flytrap) inhabits sandy banks of streams that are periodically inundated by floodwaters (Ref. 64). An actual specimen of the Green Pitcher Plant has never been authenticated in Troup County, Georgia. Accordingly, for the purposes of this PA, Green Pitcher Plant habitat is not considered to exist within the TDL.

- Bluestripe Shiner (*Cyprinella callitaenia*)

Designated by the State of Georgia as a rare fish species (recently downgraded from threatened), the Bluestripe Shiner is endemic to the Apalachicola River drainage basin (which includes the Chattahoochee River basin), (Refs. 65 & 66). The Bluestripe Shiner typically inhabits rivers or large creeks with moderate flow, little or no vegetation and a sandy or rocky substrate (Ref. 66). The Bluestripe Shiner is known to avoid smaller creeks and soft substrates. Lower stream flows with the TDL are not considered optimal for the Bluestripe Shiner. Accordingly, for the purposes of this PA, Bluestripe Shiner habitat is not considered to exist within the TDL.

- Highscale Shiner (*Notropis hypsilepis*)

Designated by the State of Georgia as a rare fish species (recently downgraded from threatened), the Highscale Shiner (*Notropis hypsilepis*) is distributed near and above the fall line in the Chattahoochee and Flint River systems (Refs. 65 & 66). The Highscale Shiner is known to inhabit small streams [three (3) to six (6) meters wide] and is often found near the mouth of such streams as they enter large rivers, and where substrate is sandy (Ref. 66).

The Georgia Department of Natural Resources has confirmed four (4) locations within the Long Cane Creek portion of the TDL where the Highscale Shiner is known to currently exist (Ref. 67). Further, the Highscale Shiner is known to currently exist in Blue John Creek, and is suspected to currently exist within the Blue John Creek portion of the TDL (Ref. 68). For the purposes of this PA, the entire TDL is considered a “particular area, relatively small in size, important to the

maintenance of a unique biotic community” (i.e., Highscale Shiner habitat), (Refs. 1, 2, 67 & 68), (see HRS Table 4-23). An artistic representation of the Highscale Shiner (by Joseph R. Tomelleri) is included as Figure 7 in the PA Report.

Protected aquatic species reported to occur in Troup County, Georgia are included in Table 3 of the PA Report.

None of these protected aquatic species were observed on-site during either of the site visits in July 2007 or February 2010 (Refs. 4, 5, 64 & 65). However, the GA EPD will look for the presence of any of these species during the sampling event.

5.3 Surface Water Sample Locations

Please refer to Table 1 of this SAP for a listing of all proposed samples. Figure 2 of this SAP depicts the approximate locations of surface water and sediment to be collected. The following describes the location, description and objective of each surface water and sediment sample:

STA-01-SW (release): At Blue John Creek, immediately upstream of old unused bridge to determine whether hazardous substances at least partially attributable to the site are present in BJC at this location (an aquatic sensitive environment).

STA-01-SED (release): At Blue John Creek, immediately upstream of old unused bridge to determine whether hazardous substances at least partially attributable to the site are present in BJC at this location (an aquatic sensitive environment).

STA-02-SW (release): At Blue John Creek, at least 528 feet downstream of Probable Point of Entry to determine whether hazardous substances at least partially attributable to the site are present in BJC at this location (an aquatic sensitive environment).

STA-02-SED (release): At Blue John Creek, at least 528 feet downstream of Probable Point of Entry to determine whether hazardous substances at least partially attributable to the site are present in BJC at this location (an aquatic sensitive environment).

STA-02-SW-DUP (QA/QC): Duplicate of STA-02-SW.

STA-02-SED-DUP (QA/QC): Duplicate of STA-02-SED.

STA-03-SW (background): At Blue John Creek, upstream of the Probable Point of Entry to determine whether hazardous substances not attributable to the site are present in BJC at this location.

STA-03-SED (background): At Blue John Creek, upstream of the Probable Point of Entry to determine whether hazardous substances not attributable to the site are present in BJC at this location.

STA-04-SW (attribution): At Atlanta Branch, just upstream of railroad culvert to determine whether hazardous substances at least partially attributable to the site are present in Atlanta Branch at this location.

STA-04-SED (attribution): At Atlanta Branch, just upstream of railroad culvert to determine whether hazardous substances at least partially attributable to the site are present in Atlanta Branch at this location.

STA-05-SW (attribution): At Troup Branch, upstream of its confluence with Atlanta Branch, to determine whether hazardous substances not attributable to the site are present in Troup Branch at this location.

STA-05-SED (attribution): At Troup Branch, upstream of its confluence with Atlanta Branch, to determine whether hazardous substances not attributable to the site are present in Troup Branch at this location.

STA-06-SW (attribution): At Atlanta Branch, upstream of its confluence with Lee Branch, to determine whether hazardous substances not attributable to the site are present in Atlanta Branch at this location.

STA-06-SED (attribution): At Atlanta Branch, upstream of its confluence with Lee Branch, to determine whether hazardous substances not attributable to the site are present in Atlanta Branch at this location.

STA-07-SW (attribution): At Park Branch, upstream of its confluence with Lee Branch, to determine whether hazardous substances not attributable to the site are present in Park Branch at this location.

STA-07-SED (attribution): At Park Branch, upstream of its confluence with Lee Branch, to determine whether hazardous substances not attributable to the site are present in Park Branch at this location.

STA-08-SW (attribution): At Lee Branch to determine whether hazardous substances at least partially attributable to the site are present in Lee Branch at this location.

STA-08-SED (attribution): At Lee Branch to determine whether hazardous substances at least partially attributable to the site are present in Lee Branch at this location.

STA-09-SW (attribution): At Lee Branch, immediately upstream of the Fourth Street culvert to determine whether hazardous substances at least partially attributable to the site are present in Lee Branch at this location.

STA-09-SED (attribution): At Lee Branch, immediately upstream of the Fourth Street culvert to determine whether hazardous substances at least partially attributable to the site are present in Lee Branch at this location.

STA-10-SW (attribution): At Lee Branch, immediately upstream of Brownwood Avenue culvert to determine whether hazardous substances not attributable to the site are present in Lee Branch at this location.

STA-10-SED (attribution): At Lee Branch, immediately upstream of Brownwood Avenue culvert to determine whether hazardous substances not attributable to the site are present in Lee Branch at this location.

STA-11-SW (release): At the on-site fire pond to determine whether hazardous substances at least partially attributable to the site are present in the on-site fire pond at this location.

STA-11-SED (release): At the on-site fire pond to determine whether hazardous substances at least partially attributable to the site are present in the on-site fire pond at this location.

STA-12-SW (release): At the on-site fire pond to determine whether hazardous substances at least partially attributable to the site are present in the on-site fire pond at this location.

STA-12-SED (release): At the on-site fire pond to determine whether hazardous substances at least partially attributable to the site are present in the on-site fire pond at this location.

STA-13-SW (background): At the Granger Park pond (approximately 2 miles northeast of site) to determine whether hazardous substances not attributable to the site are present in the Granger Park pond at this location.

STA-13-SED (background): At the Granger Park pond (approximately 2 miles northeast of site) to determine whether hazardous substances not attributable to the site are present in the Granger Park pond at this location.

6.0 SOIL EXPOSURE AND AIR MIGRATION PATHWAYS

6.1 Physical Conditions

The site occupies part of a hillside that slopes south towards Fourth Avenue (i.e., the southern boundary of the site), (Refs. 5 & 6). Surrounded by private residences of the Hillside Community, the site is bounded to the north by Brownwood Avenue, bounded to the east by Lincoln Street, bounded to the south by Fourth Avenue and bounded to the west by the backyards of private residences located on Grant, Palm and Stonewall Streets (Ref. 5 & 13). The western boundary is the only site boundary not delineated by a street. A six (6) to eight (8) foot chain-link fence restricts physical access to most areas of the site (other than parking lots), however, the on-site portion of Lee Branch has unlimited access (Ref. 5).

Of the site's approximate thirty-four (34) acres, approximately five (5) acres are not covered by buildings, paving or the on-site surface water impoundment (Refs. 5, 13 & 14). For the purposes of this SI, five (5) acres of the site constitute penetrable cover that includes, but is not limited to, landscaped areas, bare soil and Lee Branch sediments (Ref. 5).

6.2 Soil Exposure Targets

6.2.1 Resident Population, On-site Workers and Nearby Population

Immediately east of the site, there are currently ten (10) single-family residences whose backyards (and associated houses) are located within two hundred (200) feet of on-site

penetrable cover (Refs. 5 & 13). Further, the residences are within two hundred (200) feet of the on-site section of Lee Branch and the fire pond. Of these ten (10) residences, seven (7) are located on Stonewall Street and three (3) are on Palm Street (Ref. 13). Lee Branch physically separates the residences from the adjacent on-site fire pond (Ref. 5). Based upon an average of two point six (2.6) individuals per household, approximately twenty-six (26) individuals reside within two hundred (200) feet of on-site penetrable cover (Refs. 5, 13 & 56). The ten (10) residences are depicted in Figure 2 of the PA Report.

Approximately two hundred and thirty (230) individuals work on-site during various shifts (Ref. 69). Based upon information obtained from the 2000 Census of Population and Housing, approximately four thousand five hundred eighty-nine (4,589) individuals reside within one (1) mile of the site (Ref. 56).

6.2.2 Terrestrial Sensitive Environments

The following three (3) terrestrial sensitive environments have been reported to occur in Troup County, Georgia:

- Bay Star-Vine (*Schisandra glabra*)

Designated by the State of Georgia as a threatened plant species, the Bay Star-Vine (also known as the Climbing Magnolia and/or Wild Sarsaparilla) can be found twining over understory trees and shrubs in rich forested bottomlands and adjacent lower slopes of certain sections of the Piedmont Plateau in Georgia (Ref. 64).

- Yellow Ladyslipper (*Cypripedium parviflorum*)

Designated by the State of Georgia as a rare plant species, the Yellow Ladyslipper (also known as the Golden Slipper) inhabits rich, moist hardwood coves and forests within the foothills and mountains of Georgia (Ref. 64).

- Bald Eagle (*Haliaeetus leucocephalus*)

Designated by the United States Federal Government (and the State of Georgia) as a threatened bird species, the Bald Eagle is found throughout Georgia, however, known nesting activity is concentrated mostly along the coast and near major rivers, wetlands and reservoirs in the southern and central parts of the state, including, but not limited to, West Point Lake (Ref. 65).

Protected terrestrial species reported to occur in Troup County, Georgia are included in Table 3 of the PA Report.

None of these protected terrestrial species were observed on-site during either of the site visits in July 2007 or February 2010 (Refs. 4, 5, 64 & 65). However, the GA EPD will look for the presence of any of these species during the sampling event.

6.2.3 Resources

During the July 2007 and February 2010 site visits, no evidence of land use for the purposes of commercial agriculture, commercial silviculture or commercial livestock production or grazing was observed on-site (Refs 4 & 5).

6.3 Air Migration Targets

6.3.1 Target Population and Nearest Individual

Based upon information obtained from the 2000 Census of Population and Housing, twenty nine thousand one hundred forty-six (29,146) individuals reside within four (4) miles of the site reference point (Refs. 5, 6 & 56). The number of individuals per concentric distance category are set forth in Table 2 of the PA Report.

6.3.2 Sensitive Environments (Aquatic and Terrestrial)

Approximately ten (10) acres in size, a Palustrine System Forested Wetland is located between one quarter ($\frac{1}{4}$) and one half ($\frac{1}{2}$) mile of the site reference point (Refs. 5, 6 & 63). Associated with Lee Branch, the ten (10) acre qualifying wetland is located just northwest of the site. No other qualifying wetlands exist within one half ($\frac{1}{2}$) mile of the site reference point that are at least one (1) acre in size.

Protected species (both aquatic and terrestrial) reported to occur in Troup County, Georgia are included in Table 3 of the PA Report.

6.3.3 Resources

For the purposes of this SI, land use for the purposes of commercial agriculture, commercial silviculture or major recreation was not positively confirmed to currently occur within one-half ($\frac{1}{2}$) mile of any on-site potential source. However, the USGS Topographic Map depicts an unnamed athletic field immediately northwest of the site (south of Jackson Street) and Callaway Stadium immediately northeast (south of Dallas Street), (Ref. 6).

6.4 Soil Sample Locations

Please refer to Table 1 of this SAP for a listing of all proposed samples. Figure 1 of this SAP depicts the approximate locations of soil samples to be collected. The following describes the location, description and objective of each surface soil sample:

STA-17-SS (surface background): Surface soil sample (hereinafter: 0 – 2 feet below ground surface) collected off-site, near NW corner of site, north of Brownwood Avenue, in an up-gradient area not suspected to have been affected by on-site operations (to determine whether hazardous substances not attributable to the site are present in this area). However, at the time of the sampling event, the GA EPD may elect to move this background location to Granger Park, a city operated park located approximately two (2) miles northeast of the site (see Appendix A, Attachment B: Location of Granger Park, LaGrange, Georgia).

STA-18-SS (release and source characterization): Surface soil collected on-site, from the vicinity of tank farm located at NE corner of site (tank contains Toluene), to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-19-SS (release and source characterization): Surface soil collected on-site near eastern boundary of site, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-20-SS (release and source characterization): Surface soil collected on-site, near SE corner of site, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-21-SS (release and source characterization): Surface soil collected off-site, on Tax Parcel 12, to determine whether hazardous substances at least partially attributable to the site have migrated off-site to residential property.

STA-22-SS (release and source characterization): Surface soil collected on-site, between the fire pond and Lee Branch, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-23-SS (release and source characterization): Surface soil collected off-site, on Tax Parcel 7, to determine whether hazardous substances at least partially attributable to the site have migrated off-site to residential property.

STA-24-SS (release and source characterization): Surface soil collected on-site, immediately west of Lee Branch near private residences, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-24-DUP (QA/QC): Duplicate of STA-24-SS.

STA-25-SS (release and source characterization): Surface soil collected off-site, on Tax Parcel 2, to determine whether hazardous substances at least partially attributable to the site have migrated off-site to residential property.

STA-26-SS (release and source characterization): Surface soil collect on-site, in vicinity of old dye house, to determine whether hazardous substances at least partially attributable to the site are present at this location.

STA-27-SS (release and source characterization): Surface soil collect on-site, in vicinity of old dye house, to determine whether hazardous substances at least partially attributable to the site are present at this location.

6.5 Air Monitoring

A release of a hazardous substance to the air is fundamentally different from a release of a hazardous substance to other environmental media in that releases to air are transient in nature; it is unlikely that such a transient release could be detected during a scheduled sampling event

(Refs. 2 & 3). Accordingly, the GA EPD does not suspect a release to air and does not propose the collection of air samples or air monitoring at the site.

7.0 COLLECTION OF NON-SAMPLING DATA

The GA EPD will collect the following non-sampling data:

- X-Ray Fluorescence (XRF) Analyzer Screening Data – The GA EPD will utilize the U.S. EPA Region 4 Science and Ecosystem Support Division's (SESD's) current Operating Procedure for Field XRF Measurement @ <http://www.epa.gov/region4/sesd/fbqstp/Field-XRF-Measurement.pdf> to perform the field XRF screening of *in-situ* soils and other solid media as deemed appropriate, as a tool to direct the field personnel where to collect samples for laboratory analysis.
- Global Positioning System (GPS) Readings – the GA EPD personnel will document the geographical coordinates (i.e., latitude and longitude) of each sample location using a GPS receiver and will record the accuracy of each reading in feet.
- Photographic Documentation – the GA EPD will document each sample location with appropriately logged photographs showing landmarks to facilitate finding the sample location in case of re-sampling.
- Written Documentation – the GA EPD will document sample descriptions and sample locations, as well as record other field observations as described in Section A-9 of the QAPP.
- No protected species were identified during reconnaissance (Refs. 4 & 5). However, the GA EPD team will be looking for the presence of any of these species on site and/or in surface waters during the sampling event and will document any sightings (Ref. 3).

8.0 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES AND PROCEDURES

Please refer to Table 1 (Table of Proposed Samples) for the proposed QA/QC samples to be collected. The site-specific QAPP, found in Attachment B, describes the pertinent quality assurance procedures associated with this sampling event.

The GAEPD will ice collected samples in the field immediately after collection and will maintain all collected samples in ice at all times until delivery to the GAEPD Laboratories in Norcross, Georgia. Samples will be collected and handled according to the protocol established by the current EPA Region 4 Science and Ecosystem Support Division (SESD) Field Branches Quality System and Technical Procedures @ <http://www.epa.gov/region4/sesd/fbqstp/>.

9.0 FIELD ACTIVITIES

The GA EPD will conduct field sampling during two phases, as follows:

Phase I (scheduled for the week of March 15, 2010) - Field personnel will collect surface water and sediment samples from the stream Target Distance Limit (TDL), (i.e., Blue John Creek) and the stream Overland Run-Off Route (OROR), (i.e., Atlanta Branch, Troup Branch, Park Branch and Lee Branch).

Phase II (scheduled for the week of April 19, 2010) – Field personnel will collect surface water and sediment samples from the fire pond TDL and Granger Park Pond (or other suitable pond background location), wastewater, paint chips and on-site soils (including off-site background soils).

The GA EPD will ice collected samples in the field immediately after collection and will maintain all collected samples in ice at all times until delivery to the GA EPD Laboratories in Norcross, Georgia.

10.0 INVESTIGATION-DERIVED WASTE PLAN

Investigation-derived waste includes personal protective equipment; sampling equipment; and any sampling medium not retained as a sample. The GA EPD field personnel will bag or containerize disposable sampling equipment and personal protective equipment, and take it to the GA EPD Laboratories in Norcross, Georgia for proper disposal.

The sampling personnel will clean the reusable sampling equipment in the field using water and detergent to remove residuals; and then take it to the GA EPD Laboratories for further decontamination. The GA EPD field personnel will return any excess sampling media (i.e. media generated during sampling, but not put into laboratory containers) back to its corresponding sample location.

11.0 PROJECT MANAGEMENT

11.1 Project Manager / Responsibilities

The Project Manager (PM) and the Safety Officer (SO) for this SI will be Luis E. Medina of the GA EPD. The PM/SO will develop a Health and Safety Plan, schedule field activities, enlist field personnel and monitor personnel requirements. The PM/SO will also obtain site access, direct all onsite and offsite activities, ensure the proper documentation of all sample collections and manage all collected samples until proper delivery to the laboratory for analysis in accordance with EPA protocols. Only OSHA-certified personnel from the GA EPD will participate in the sampling event [i.e., personnel who have initially taken an OSHA approved 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) course and have maintained certification by taking an annual 8-hour OSHA approved HAZWOPER refresher course].

11.2 Field Equipment / Health and Safety

See Sampling Equipment List included in Attachment C of this document. A Health and Safety Plan, approved by the GA EPD, will be followed during this sampling event.

11.3 Community Relations

The general community is not aware of the dates of the SI sampling activities. At this time, the GA EPD does not deem it necessary to notify the general community of this SI. However, the GA EPD will contact property owners as necessary, to gain access to the proposed sampling locations.

11.4 Project Schedule

As discussed in Section 9.0, the GA EPD will conduct field sampling during two phases, as follows:

Phase I (scheduled for the week of March 15, 2010) - Field personnel will collect surface water and sediment samples from the stream Target Distance Limit (TDL), (i.e., Blue John Creek) and the stream Overland Run-Off Route (OROR), (i.e., Atlanta Branch, Troup Branch, Park Branch and Lee Branch).

Phase II (scheduled for the week of April 19, 2010) – Field personnel will collect surface water and sediment samples from the fire pond TDL and Granger Park Pond (or other suitable pond background location), wastewater, paint chips and on-site soils (including off-site background soils).

The GA EPD will evaluate all the analytical data resulting from this sampling event to determine whether sufficient evidence exists to warrant further evaluation of the site under the HRS based on the Surface Water Migration and/or the Soil Exposure Pathways. Analytical results are expected to be validated by the GAEPD Laboratories and delivered within 30-45 days of Phase II, upon which the drafting of the final SI report will begin. The final SI report and HRS score will be completed by September 30, 2010.

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REFERENCES

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TABLES

TABLE 1 - PROPOSED SAMPLE COLLECTION**Site Inspection – Milliken & Company**

(Refer to Figures 1 and 2 of the SAP)

SAMPLE MEDIA / PURPOSE	SAMPLING LOCATION REFERENCE	LOCATION DESCRIPTION AND OBJECTIVE
The following eleven (11) surface water samples and eleven (11) sediment samples will tentatively be collected the week of March 15, 2010.		
Surface Water / Release (Perennial)	STA-01-SW	At Blue John Creek, immediately upstream of old unused bridge to determine whether hazardous substances at least partially attributable to the site are present in BJC at this location (an aquatic sensitive environment).
Sediment / Release (Perennial)	STA-01-SED	At Blue John Creek, immediately upstream of old unused bridge to determine whether hazardous substances at least partially attributable to the site are present in BJC at this location (an aquatic sensitive environment).
Surface Water / Release (Perennial)	STA-02-SW	At Blue John Creek, at least 528 feet downstream of Probable Point of Entry to determine whether hazardous substances at least partially attributable to the site are present in BJC at this location (an aquatic sensitive environment).
Sediment / Release (Perennial)	STA-02-SED	At Blue John Creek, at least 528 feet downstream of Probable Point of Entry to determine whether hazardous substances at least partially attributable to the site are present in BJC at this location (an aquatic sensitive environment).
Surface Water / QA/QC (Perennial)	STA-02-SW-DUP	Duplicate of STA-02-SW
Sediment / QA/QC (Perennial)	STA-02-SED-DUP	Duplicate of STA-02-SED
Surface Water / Background (Perennial)	STA-03-SW	At Blue John Creek, upstream of the Probable Point of Entry to determine whether hazardous substances <u>not</u> attributable to the site are present in BJC at this location.
Sediment / Background (Perennial)	STA-03-SED	At Blue John Creek, upstream of the Probable Point of Entry to determine whether hazardous substances <u>not</u> attributable to the site are present in BJC at this location.
Surface Water / Attribution (Intermittent)	STA-04-SW	At Atlanta Branch, just upstream of railroad culvert to determine whether hazardous substances at least partially attributable to the site are present in Atlanta Branch at this location.
Sediment / Attribution (Intermittent)	STA-04-SED	At Atlanta Branch, just upstream of railroad culvert to determine whether hazardous substances at least partially attributable to the site are present in Atlanta Branch at this location.

SAMPLE MEDIA / PURPOSE	SAMPLING LOCATION REFERENCE	LOCATION DESCRIPTION AND OBJECTIVE
Surface Water / Attribution (Intermittent)	STA-05-SW	At Troup Branch, upstream of its confluence with Atlanta Branch, to determine whether hazardous substances <u>not</u> attributable to the site are present in Troup Branch at this location.
Sediment / Attribution (Intermittent)	STA-05-SED	At Troup Branch, upstream of its confluence with Atlanta Branch, to determine whether hazardous substances <u>not</u> attributable to the site are present in Troup Branch at this location.
Surface Water / Attribution (Intermittent)	STA-06-SW	At Atlanta Branch, upstream of its confluence with Lee Branch, to determine whether hazardous substances <u>not</u> attributable to the site are present in Atlanta Branch at this location.
Sediment / Attribution (Intermittent)	STA-06-SED	At Atlanta Branch, upstream of its confluence with Lee Branch, to determine whether hazardous substances <u>not</u> attributable to the site are present in Atlanta Branch at this location.
Surface Water / Attribution (Intermittent)	STA-07-SW	At Park Branch, upstream of its confluence with Lee Branch, to determine whether hazardous substances <u>not</u> attributable to the site are present in Park Branch at this location.
Sediment / Attribution (Intermittent)	STA-07-SED	At Park Branch, upstream of its confluence with Lee Branch, to determine whether hazardous substances <u>not</u> attributable to the site are present in Park Branch at this location.
Surface Water / Attribution (Intermittent)	STA-08-SW	At Lee Branch to determine whether hazardous substances at least partially attributable to the site are present in Lee Branch at this location.
Sediment / Attribution (Intermittent)	STA-08-SED	At Lee Branch to determine whether hazardous substances at least partially attributable to the site are present in Lee Branch at this location.
Surface Water / Attribution (Intermittent)	STA-09-SW	At Lee Branch, immediately upstream of the Fourth Street culvert to determine whether hazardous substances at least partially attributable to the site are present in Lee Branch at this location.
Sediment / Attribution (Intermittent)	STA-09-SED	At Lee Branch, immediately upstream of the Fourth Street culvert to determine whether hazardous substances at least partially attributable to the site are present in Lee Branch at this location.
Surface Water / Attribution (Intermittent)	STA-10-SW	At Lee Branch, immediately upstream of Brownwood Avenue culvert to determine whether hazardous substances <u>not</u> attributable to the site are present in Lee Branch at this location.
Sediment / Attribution (Intermittent)	STA-10-SED	At Lee Branch, immediately upstream of Brownwood Avenue culvert to determine whether hazardous substances <u>not</u> attributable to the site are present in Lee Branch at this location.

SAMPLE MEDIA / PURPOSE	SAMPLING LOCATION REFERENCE	LOCATION DESCRIPTION AND OBJECTIVE
The following three (3) surface water samples and three (3) sediment samples will tentatively be collected the week of April 19, 2010.		
Surface Water / Release (Perennial)	STA-11-SW	At the on-site fire pond to determine whether hazardous substances at least partially attributable to the site are present in the on-site fire pond at this location.
Sediment / Release (Perennial)	STA-11-SED	At the on-site fire pond to determine whether hazardous substances at least partially attributable to the site are present in the on-site fire pond at this location.
Surface Water / Release (Perennial)	STA-12-SW	At the on-site fire pond to determine whether hazardous substances at least partially attributable to the site are present in the on-site fire pond at this location.
Sediment / Release (Perennial)	STA-12-SED	At the on-site fire pond to determine whether hazardous substances at least partially attributable to the site are present in the on-site fire pond at this location.
Surface Water / Background (Perennial)	STA-13-SW	At the Granger Park pond (approximately 2 miles northeast of site) to determine whether hazardous substances <u>not</u> attributable to the site are present in the Granger Park pond at this location.
Sediment / Background	STA-13-SED	At the Granger Park pond (approximately 2 miles northeast of site) to determine whether hazardous substances <u>not</u> attributable to the site are present in the Granger Park pond at this location.
The following three (3) waste samples will tentatively be collected the week of April 19, 2010.		
Waste Liquid / Source Characterization	STA-14-WL	Waste water collected from concrete neutralization basin located on-site (point of discharge to city sewer system).
Waste Liquid / Source Characterization	STA-15-WL	Waste water collected from one of two 12,000 gallon above ground tanks located on-site (containing zinc wastewater).
Waste Solid / Source Characterization	STA-16-WS	Paint chips collected from within multi-story vacant brick building associated with defunct water treatment plant located south of Forth Street.
The following fifteen (15) soil samples will tentatively be collected the week of April 19, 2010.		
Surface Soil / Background	STA-17-SS	Surface soil collected off-site, near NW corner of site, north of Brownwood Avenue, in an up-gradient area not suspected to have been affected by on-site operations (to determine whether hazardous substances <u>not</u> attributable to the site are present in this area).
Subsurface Soil / Background	STA-17-SUB	Subsurface soil collected off-site, near NW corner of site, north of Brownwood Avenue, in an up-gradient area not suspected to have been affected by on-site operations (to determine whether hazardous substances <u>not</u> attributable to the site are present in this area).

SAMPLE MEDIA / PURPOSE	SAMPLING LOCATION REFERENCE	LOCATION DESCRIPTION AND OBJECTIVE
Surface Soil / Release & Source Characterization	STA-18-SS	Surface soil collected on-site, from the vicinity of tank farm located at NE corner of site (tank contains Toluene), to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-19-SS	Surface soil collected on-site near eastern boundary of site, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-20-SS	Surface soil collected on-site, near SE corner of site, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-21-SS	Surface soil collected off-site, on Tax Parcel 12, to determine whether hazardous substances at least partially attributable to the site have migrated off-site to residential property.
Surface Soil / Release & Source Characterization	STA-22-SS	Surface soil collected on-site, between the fire pond and Lee Branch, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-23-SS	Surface soil collected off-site, on Tax Parcel 7, to determine whether hazardous substances at least partially attributable to the site have migrated off-site to residential property.
Surface Soil / Release & Source Characterization	STA-24-SS	Surface soil collected on-site, immediately west of Lee Branch near private residences, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / QA/QC	STA-24-DUP	Duplicate of STA-24-SS.
Surface Soil / Release & Source Characterization	STA-25-SS	Surface soil collected off-site, on Tax Parcel 2, to determine whether hazardous substances at least partially attributable to the site have migrated off-site to residential property.
Surface Soil / Release & Source Characterization	STA-26-SS	Surface soil collect on-site, in vicinity of old dye house, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Subsurface Soil / Source Characterization	STA-26-SUB	Subsurface soil collect on-site, in vicinity of old dye house, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-27-SS	Surface soil collect on-site, in vicinity of old dye house, to determine whether hazardous substances at least partially attributable to the site are present at this location.
Subsurface Soil / Source Characterization	STA-27-SUB	Subsurface soil collect on-site, in vicinity of old dye house, to determine whether hazardous substances at least partially attributable to the site are present at this location.

FIGURES

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10840215 Site ID: GAD981275993

Site Name: Milliken & Company

Nature of Material:

Map: ☐

Computer Disks: ☐

Photos: ☐

CD-ROM: ☐

Blueprints: ☐

Oversized Report: ☐

Slides: ☐

Log Book: ☐

Other (describe): Soil Sample Locations (Fig. 1)

Amount of material: _____

* Please contact the appropriate Records Center to view the material *

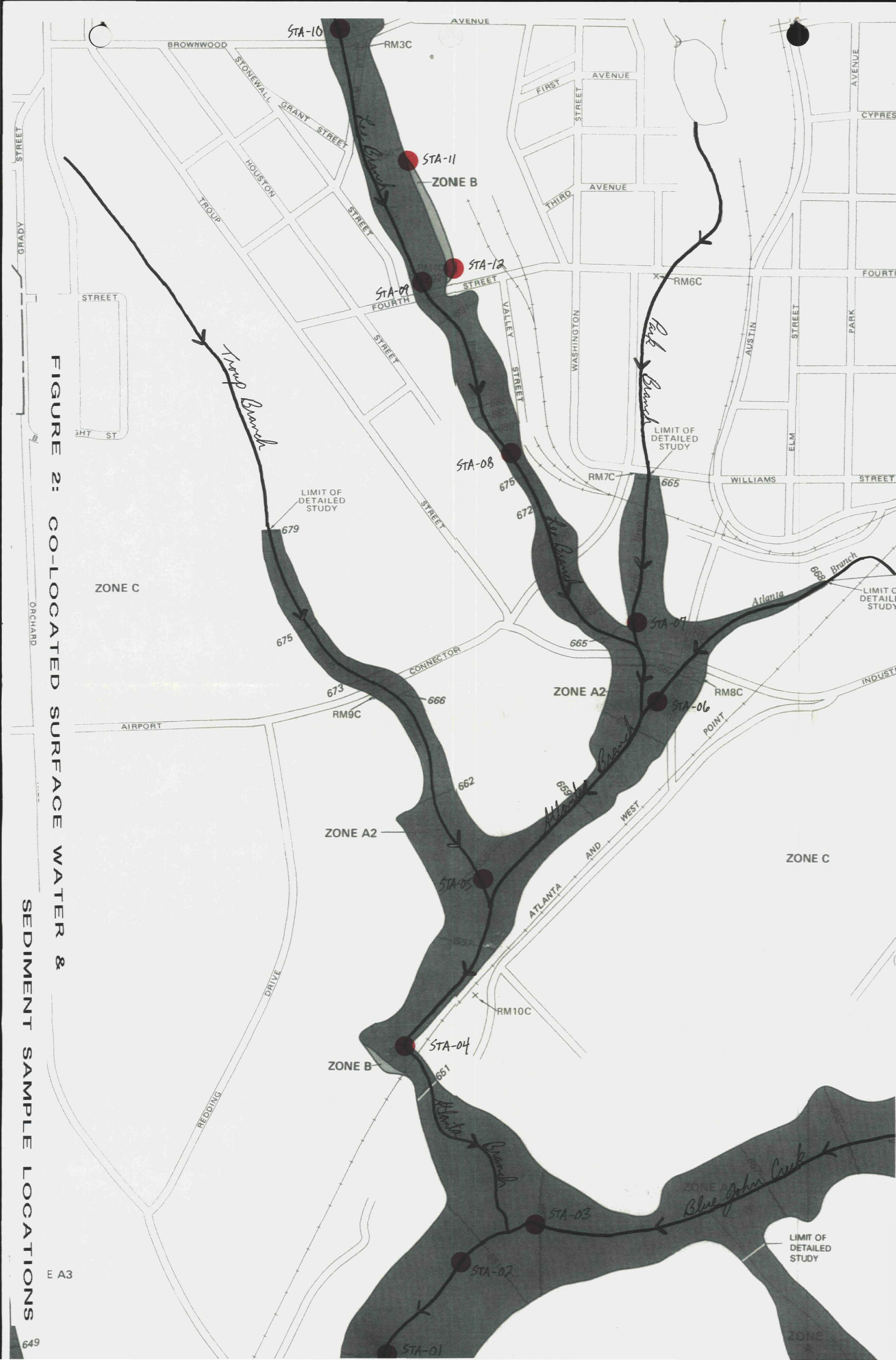


FIGURE 2: CO-LOCATED SURFACE WATER &

Georgia Department of Natural Resources

2 Martin Luther King, Jr. Drive, SE, Suite 1462, Atlanta, Georgia 30334

Chris Clark, Commissioner

Environmental Protection Division

F. Allen Barnes, Director

Response and Remediation Program

(404) 657-8600



March 1, 2010

TRIP REPORT

SITE NAME & LOCATION:

Milliken & Company
Hillside Location
1300 Brownwood Avenue
LaGrange, Troupe County, Georgia

TRIP BY:

Andrew S. Taft *AST*
CERCLA Site Assessment Coordinator
GA Environmental Protection Division
Land Protection Branch
Response and Remediation Program

ACCOMPANIED BY:

Luis E. Medina
Environmental Compliance Specialist
GA Environmental Protection Division
Land Protection Branch
Response and Remediation Program

DATE OF TRIP:

February 24, 2010

OFFICIAL CONTACTED:

Mark Moe
Senior Environmental Chemist
Milliken & Company

REFERENCE:

Site Reconnaissance
Site Inspection (SI)

PURPOSE:

The purpose of the site reconnaissance was to collect certain information necessary to complete a Site Inspection (SI) report in accordance with the document titled: *Guidance for Performing Site Inspections Under CERCLA*, United States Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, DC 20460, EPA/540-R-92-021, September 1992.

DRIVING DIRECTIONS FROM ATLANTA:

- Take Interstate 85 South to Exit 14 at U.S. Highway 27;
- Turn right onto U.S. Highway 27 – proceed approx. ½ mile to South Davis Road;
- Turn left onto South Davis Road – proceed approx. ½ mile to Whitesville Road;
- Turn right onto Whitesville Road – proceed approx. ½ mile to Lukken Industrial Drive;
- Turn left onto Lukken Industrial Drive – proceed approx. 1 mile to Troup Street;
- Turn right onto Troup Street – proceed approx. ¾ mile to Brownwood Avenue; and
- Turn right onto Brownwood Avenue – proceed several blocks to 1300 Brownwood Avenue.

COMMENTS:

The following comments serve to document areas visited, interviews conducted and observations noted during the February 24, 2010 Site Reconnaissance:

1. Mr. Moe stated that the Hillside Plant has ceased operations, and that carpet is no longer manufactured on-site.
2. Mr. Moe stated that the Valway Plant and the Hillside Coating Plant continue to operate on-site with no additions or deletions to processes since the July 19, 2007 site reconnaissance.
3. Mr. Moe stated that on-site wastewater treatment processes continue to discharge wastewater to the city sewer system, however, since closure of the Hillside Plant, previous operations associated with that plant no longer generate wastewater. Mr. Moe indicated that previous Hillside Plant operations contributed minimally to the total volume of wastewater generated on-site.
4. Mr. Moe stated that a third neutralization basin has been added to the on-site wastewater treatment system (since the July 19, 2007 site reconnaissance).
5. Mr. Moe stated that should surface water or sediment samples be collected from the on-site fire pond, it was company policy that life jackets be worn.
6. When asked if there was a nearby pond where surface water or sediment samples could be collected for comparison purposes, Mr. Moe stated that a pond existed at Granger Park that might be suitable. A later search on the "Google Earth" website confirmed the location of the pond at Granger Park (see Attachment A: Location of Granger Park, LaGrange, Georgia).
7. At the time of the reconnaissance, private residences nearest to the on-site fire pond were occupied (i.e., residences on Stonewall Street).
8. Mr. Moe stated that he has never observed the stream that separates the fire pond from Stonewall Street residences run dry, however, he had observed low water conditions he described as a "trickle."

9. Just south of Fourth Street, Mr. Moe provided access to locked and fence property containing an old water treatment plant. Mr. Moe explained the plant formerly drew raw water from the Chattahoochee River and treated it sufficiently for process water that was used for on-site manufacturing processes. According to Mr. Moe, wastewater treatment never occurred at the water treatment plant. At the time of the reconnaissance, numerous paint chips were observed on the floor of the associated multi-story brick building.
10. Mr. Moe stated that since the July 19, 2007 reconnaissance, the stream that separates the fire pond from private residences on Stonewall Street had been straighten, and rip-rap had been added to the side of the stream nearest to the fire pond. Mr. Moe indicated that stream sediment on the side nearest to the residence likely represented older sediment due to the relatively recent stream modifications.
11. Twelve (12) proposed co-located surface water/sediment sample locations were visited to confirm physical access and the type of sediment matrix (see Attachment B: Proposed Co-Located Surface Water/Sediment Sample Locations). All locations were accessible and had a similar sandy sediment matrix.
12. During Phase I of the on-site sampling event tentatively scheduled for the week of March 15, 2010, each of the co-located surface water/sediment sample locations will be adequately described and photographed. Further, geographical coordinates will be determined for each sample location.


RECOMMENDATIONS & FOLLOW-UP REQUIRED:

Use the obtained information documented herein to complete a Site Inspection (SI) report (in conjunction with additional information). Results of the SI report will be used to determine whether further evaluation of the site under the Hazard Ranking System (HRS) is warranted at this time.

ATTACHMENTS:

- A: Location of Granger Park, LaGrange, Georgia
- B: Proposed Co-Located Surface Water/Sediment Sample Locations
- C: Logbook Documentation

PHOTOGRAPHS: None

REVIEWED BY: 

ATTACHMENT A: Location of Granger Park, LaGrange, Georgia



MAPQUEST.

Sorry! When printing directly from the browser your directions or map may not print correctly. For best results, try clicking the Printer-Friendly button.



Starting Location

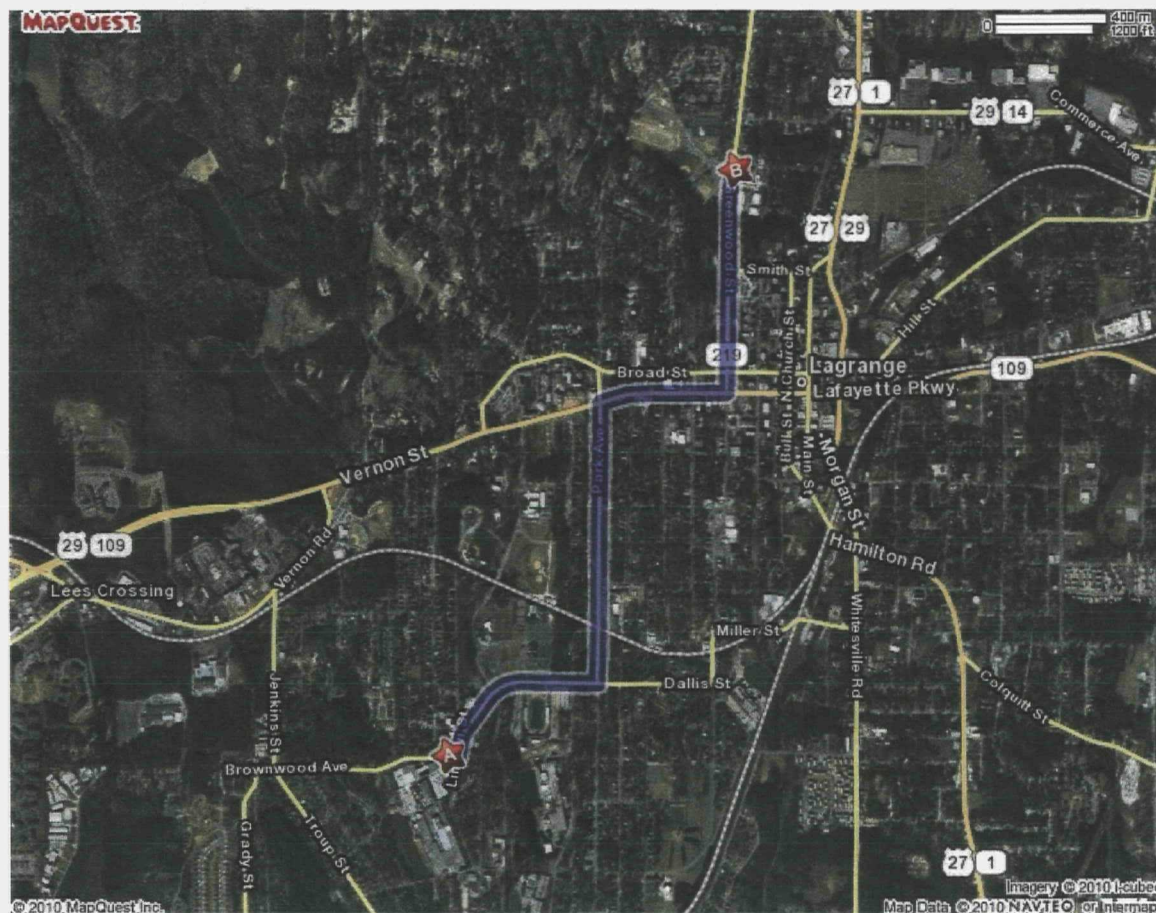
1300 Brownwood Ave
Lagrange, GA 30240-4900



Ending Location

Granger Park Tennis Court
100 Hunnicutt Pl
Lagrange, GA 30240
(706) 883-1685

Total Travel Estimate: **6 minutes** / **2.20 miles** Fuel Cost: [Calculate](#)



1300 Brownwood Ave [Edit](#)

Lagrange, GA 30240-4900



1. Start out going **EAST** on **BROWNWOOD AVE** toward **LINCOLN ST.** 0.0 mi



2. Turn **LEFT** onto **LINCOLN ST.** 0.0 mi



3. Stay **STRAIGHT** to go onto **DALLIS ST.** 0.4 mi



4. Turn **LEFT** onto **PARK AVE.** 0.7 mi



5. Turn **RIGHT** onto **VERNON ST/US-29/GA-109/GA-14.** 0.4 mi



6. Turn **LEFT** onto **N GREENWOOD ST/GA-219.** 0.6 mi



7. **100 HUNNICUTT PL.**



Granger Park Tennis Court [Edit](#)

100 Hunnicutt Pl, Lagrange, GA 30240 - (706) 883-1685

Total Travel Estimate: **6 minutes** / **2.20 miles** Fuel Cost: [Calculate](#)

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MAPQUEST.

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Starting Location

1300 Brownwood Ave
Lagrange, GA 30240-4900



Ending Location

Granger Park Tennis Court
100 Hunnicutt Pl
Lagrange, GA 30240
(706) 883-1685

Total Travel Estimate: **6 minutes** / **2.20 miles** Fuel Cost: [Calculate](#)



1300 Brownwood Ave [Edit](#)

Lagrange, GA 30240-4900



1. Start out going **EAST** on **BROWNWOOD AVE** toward **LINCOLN ST.** 0.0 mi



2. Turn **LEFT** onto **LINCOLN ST.** 0.0 mi



3. Stay **STRAIGHT** to go onto **DALLIS ST.** 0.4 mi



4. Turn **LEFT** onto **PARK AVE.** 0.7 mi



5. Turn **RIGHT** onto **VERNON ST/US-29/GA-109/GA-14.** 0.4 mi



6. Turn **LEFT** onto **N GREENWOOD ST/GA-219.** 0.6 mi



7. **100 HUNNICUTT PL.**



Granger Park Tennis Court [Edit](#)

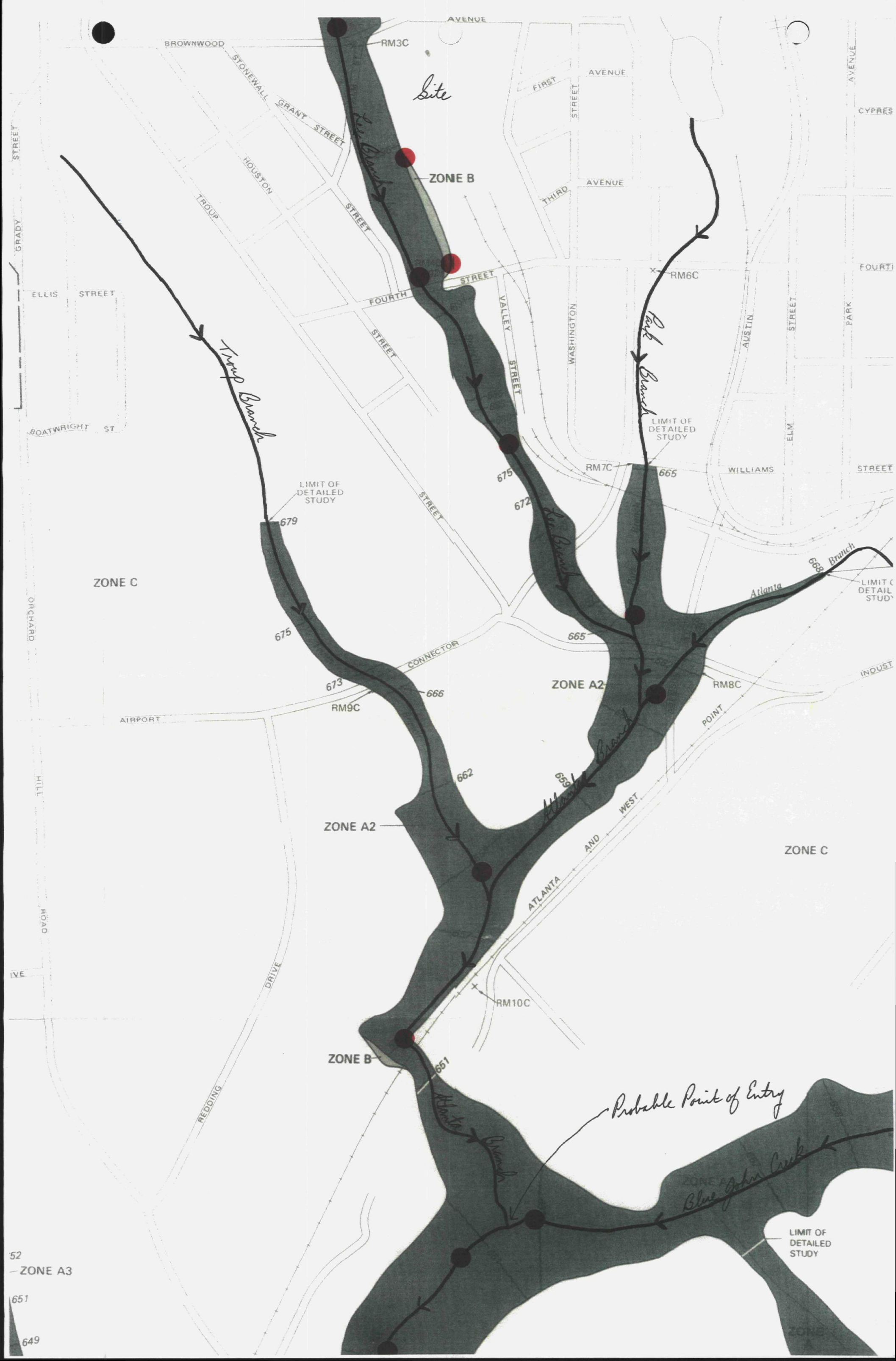
100 Hunnicutt Pl, Lagrange, GA 30240 - (706) 883-1685

Total Travel Estimate: **6 minutes** / **2.20 miles** Fuel Cost: [Calculate](#)

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**ATTACHMENT B: Proposed Co-Located Surface Water/Sediment Sample
Locations**



52
- ZONE A3

651

649

ATTACHMENT C: Logbook Documentation

2/24/2010

Milliken & Company



MARK MOE
SENIOR ENVIRONMENTAL CHEMIST
VALWAY PLANT/HILLSIDE COATING

Milliken & Company
1300 4th Avenue
LaGrange, GA 30240
milliken.com

Bus (706) 880-3760
Fax (706) 880-5849
Cell (706) 594-5452
mark.moe@milliken.com

Hillside Plant shut down
no more carpet

→ Hillside Coating & both operating
→ Valway

no additions or deletions to processing
@

① Andrew B. Taft 2/24/2010

Hillside produced limited
wastewater

still have same discharge permit

Zinc Tanks 2 tanks
Wastewater

subset of what is
discharged to city

Catch basins collect
SW run-off gets piped
to Fire Pond
2 discharge pipes

added additional neutralizer
basin
3 of 3 2 previously existing

Andrew B. Taft 2/24/2010

②

has a sampler
for equalization basin

have to have a life jacket
to sample pond

Pond at Granger Park
Could use as
background

Contigius house to pond
still occupied

Mark Moe

has never seen stream completely dry
may be a trickel

Andrew S. Taft 2/24/2010

(3)

stream is not on property

background sample loc. may be
owned by

"PACLOET"

looked at old water house
filled with paint chips
on S side of 4th avenue

draw raw water from Chatehoochee
river and treated for use at plant

no wastewater was treated
here

Stream at side of street
was straightened just
rip rap added.

older sediments on ^{west} side

Andrew S. Taft 2/24/2010

(4)

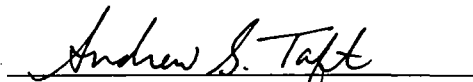
ATTACHMENT B: Site-Specific QAPP

**Quality Assurance Project Plan (QAPP)
For Sampling Activities at Milliken and Company
1300 Brownwood Avenue, LaGrange
Troup County, Georgia
Pursuant to a Site Inspection (SI)**

PREPARED FOR:

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION IV
ATLANTA FEDERAL BUILDING
61 FORSYTH STREET, S.W.
ATLANTA, GEORGIA 30303-3415

PREPARED BY:

A handwritten signature in cursive script, reading "Andrew S. Taft", is written over a horizontal line.

ANDREW S. TAFT
CERCLA SITE ASSESSMENT COORDINATOR
GEORGIA ENVIRONMENTAL PROTECTION DIVISION
2 MARTIN LUTHER KING JR. DRIVE, S.E.
FLOYD TOWER EAST, SUITE 1462
ATLANTA, GEORGIA 30334

MARCH, 2010

SECTION A: Project Planning Elements

A1. Title (Project Name):	Milliken and Company (SI)	
Project Location:	Troup County, Georgia	
Originating Organization:	Georgia Department of Natural Resources (DNR) Environmental Protection Division (GAEPD), Land Protection Branch (LPB)	
EPD Project Manager's Name, Position, and Organization:	Andrew S. Taft CERCLA Site Assessment Coordinator Land Protection Branch GAEPD	
EPD Project Manager's Signature:		Date:
EPA Project Manager's Name and Position:	Donna Seadler Remedial Project Manager Superfund Site Evaluation Section Superfund Division, EPA Region 4 404-562-8799	
EPA Project Manager's Signature:		Date:
A2. Table of Contents	A1. Title (Project Name): 1 A2. Table of Contents 2 A3. Distribution List 3 A4. Project Personnel 3 A5. Background: 3 A6. Project Description: 3 A7. Quality Objectives and Criteria 4 A8. Special Training/Certifications 4 A9. Documents and Records 4 B1. Sampling Design 5 B2. Sampling Methods, General Procedures 5 B3. Sampling Handling and Custody 5 B4. Analytical Methods 5 B5. Quality Control 5 B6. Instrument/Equipment Testing, Inspection and Maintenance 6 B7. Instrument/Equipment Calibration and Frequency 6	

	B8. Inspection/Acceptance for Supplies and Consumables 6 B9. Non-direct Measurements 6 B10. Data Management 6 C1. Assessments and Response Actions 7 C2. Reports to Management 7 D1. Data Review, Verification, and Validation 7 D2. Verification and Validation Methods 7 D3. Reconciliation with User Requirements 7 Figure showing site location	
A3. Distribution List	Donna Seadler, Remedial Project Manager Superfund Site Evaluation Section Superfund Division, EPA Region 4 Andrew S. Taft, CERCLA Site Assessment Coordinator Land Protection Branch, GAEPD David Jones, Director EPD Laboratories Program Coordination Branch, GAEPD	
A4. Project Personnel	Organization	Responsibilities
Luis E. Medina (Phase I)	GAEPD	Project Manager/Health and Safety Officer
Andrew S. Taft (Phase II)	GAEPD	Project Manager/Health and Safety Officer
Lawrence Papetti	GAEPD	Field Team Member/Sampler/Sample Transporter
Comments: Other personnel from the GAEPD will be recruited for the sampling activities as needed.		
Organization Chart: An Organizational Chart is included in Appendix F of the Generic QAPP.		
A5. Background:	The site is an active manufacturing facility comprised of three plants: the Hillside Plant, the Valway Plant and the Hillside Coating Plant. The operations at this site include the manufacturing of carpet, industrial textiles, abrasives, lawn mower grass bags, tire ingredients, automobile safety bags and polymeric coating agents for fabrics. Although manufacturing operations have taken place at this facility since 1915 under a previous owner, the property is presently owned, maintained and controlled by Milliken and Company. For further background information, please see Section 2.0 of the Sampling and Analysis Plan (SAP).	

A6. Project Description:	Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the GAEPD will conduct a Site Inspection (SI) at the above-listed site. The objectives of the SI are to collect analytical data to identify hazardous substances at the site and to assess whether human health and/or the environment have been impacted by the release of these substances in the environment. The scope of the investigation will include collecting environmental media samples (waste, soil, surface water and sediment) for laboratory analysis.
Decision(s) to be made based on data:	<p>To determine whether an observed release of a hazardous substance has occurred; whether an observed release has occurred at any target; and whether any target affected by a release qualifies as Level 1 or Level 2 contamination.</p> <p>The information gathered from this investigation will be used to determine the need for any additional investigations under CERCLA/SARA or other authority; and, if appropriate, to support evaluation using the Hazard Ranking System (HRS) for proposal to the National Priorities List.</p>
Applicable regulatory information, actions levels, etc.	Refer to Generic QAPP
Field Study Date:	Sampling at the site will be conducted the week of March 15 and the week of April 19, 2010.
Projected Lab Completion Date:	30-45 Days after sample delivery
Final Report Completion Date:	September 30, 2010
A7. Quality Objectives and Criteria	
Refer to Generic QAPP, Section A7.	
A8. Special Training/Certifications	
As stated in Section A8 of the Generic QAPP, each member of the GAEPD field team shall have the initial 40-hour OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) course and have maintained certification by taking an annual 8-hour OSHA approved HAZWOPER refresher course. All field operations will be conducted under the auspices of an approved Health and Safety Plan.	

9. Documents and Records

Refer to Generic QAPP, Attachment A: "Georgia Environmental Protection Division Quality Management Plan" and Attachment G: "Training Records".

SECTION B: Data Generation and Acquisition

B1. Sampling Design

Refer to the Sampling and Analysis Plan (SAP) for the sampling design (i.e., number of samples, media type, locations, rationale, analyses, tables and figures) chosen based on the data quality objectives of the study, as included in Section A7 and Attachment D of the Generic QAPP.

The EPA Region 4 Science and Ecosystem Division (SESD) Field Branches Quality System and Technical Procedures (November 2007 version) @ <http://epa.gov/region4/sesd/fbqstp/index.html> serves as a basis for all field protocols proposed for this SI.

B2. Sampling Methods, General Procedures

Refer to Section B2 and Attachment H of the Generic QAPP. The EPA Region 4 SESD Field Branches Quality System and Technical Procedures (November 2007 version) accessed @ <http://epa.gov/region4/sesd/fbqstp/index.html> serves as the basis for all field protocols proposed for this SI.

B3. Sampling Handling and Custody

Refer to Section B3 of the Generic QAPP and Attachment B, Section 5.0.

B4. Analytical Methods

Note: EPA method numbers are in parenthesis.

Pesticides (8081A); PCBs (8082); Volatiles (624 and 8260B); Semi-volatiles (8270C); TAL/Metals (6010B and 6020); Mercury (7470 and 7471); and Cyanide (335.4, 9010B and 9012A) for all sample media. See Attachments B, D and E to the Generic QAPP.

B5. Quality Control

Field:	See Table of Proposed Samples in SAP.
Laboratory:	Refer to Attachment B to the Generic QAPP – "GAEPD Laboratory Quality Assurance Manual"

B6. Instrument/Equipment Testing, Inspection and Maintenance

See Attachment H of the Generic QAPP for a list of field equipment and instrumentation, as well as copies of manuals. Equipment and instruments will be tested, inspected and maintained according to the manufacturers' instructions in the manuals (Attachment H of the Generic QAPP), and as specified in Section B7 of the Generic QAPP.

B7. Instrument/Equipment Calibration and Frequency

Equipment and instruments will be calibrated as specified in Section B7 of the Generic QAPP.

B8. Inspection/Acceptance for Supplies and Consumables

Refer to Section B8 of the Generic QAPP.

B9. Non-direct Measurements:

Refer to Section B9 of the Generic QAPP.

B10. Data Management

As stated in Section B10 of the Generic QAPP:

The project manager will be responsible for ensuring that all requirements for data management are met. All data generated for this field investigation, whether hand-recorded or obtained using an electronic data logger will be recorded, stored and managed according to the following procedures:

- *SESD Operating Procedure for Control of Records*, SESDPROC-002-R3;
- *SESD Operating Procedures for Logbooks*, SESDPROC-010-R3; and
- The Georgia Environmental Protection Division Quality Management Plan (Attachment A to the Generic QAPP).

SECTION C: Assessment/Oversight**C1. Assessments and Response Actions**

As stated in Section C1 of the Generic QAPP:

Assessments will be conducted during the field investigation according to the *SESD Operating Procedure for Project Planning*, SESDPROC-016-R1 to ensure the QAPP is being implemented as approved. The Project Manager is responsible for all corrective actions while in the field.

C2. Reports to Management

As stated in Section C2 of the Generic QAPP:

The Project Manager will be responsible for notifying the EPA Project Manager if any circumstances arise during the field investigation that may adversely impact the quality of the data collected.

SECTION D: Data Validation and Usability

D1. Data Review, Verification, and Validation

See Section D1 and Attachment B of the Generic QAPP.

D2. Verification and Validation Methods

See Section D2 and Attachment B of the Generic QAPP.

D3. Reconciliation with User Requirements

See Section D3 and Attachment C of the Generic QAPP.

Footnotes: This Quality Assurance Project Plan (QAPP) has been prepared and approved according to the EPA *Requirements for Quality Assurance Project Plans (EPA QA/R5 EPA/240/B-01/003)*, U.S. Environmental Protection Agency, Office of Environmental Information, Washington, DC, March 2001 (USEPA, 2001). This document will be used to ensure that the environmental data collected for this project are of the type and quality for the intended purposes.

See Appendix A to this site-specific QAPP for regulatory standards and criteria related to hazardous substances associated with this site.

ATTACHMENT C: Sampling Equipment List

SAMPLING EQUIPMENT LIST
(groundwater and air sampling excluded)

Sampling Plan
Field Logbook
Camera
Global Positioning System (GPS) Unit
Sample Coolers
Travel Blanks
Sample Containers (bottles, jars, vials)
Encore Samplers
T-Handles for Encore Samplers
Stainless Steel Spoons
Stainless Steel or Glass Bowls
Hand Auger T-Handles
Hand Auger Extensions
Hand Auger Buckets (Sampler)
Hand Auger Clips
Water-proof Labels
Sample Tags
Permanent Markers
Sample Receipt Sheets
Sample Information Forms
Chain of Custody Forms
Custody Seals
Nitrile Gloves
Disposable Boot Covers
Garbage Bags with ties
Zip-lock Bags
Ice
Paper Towels
Analyte-free or De-ionized Water (for equipment Blank)
Tap Water (for rinsing of soiled equipment)
X-Ray Fluorescence (XRF) Portable Analyzer
Gerome Mercury Vapor Analyzer (when Mercury is suspected)

APPENDIX D

Georgia Department of Natural Resources

2 Martin Luther King, Jr. Drive, SE, Suite 1462, Atlanta, Georgia 30334

Chris Clark, Commissioner

Environmental Protection Division

F. Allen Barnes, Director

May 14, 2010

TRIP REPORT

SITE NAME & LOCATION:

Milliken and Company
1300 Brownwood Avenue
LaGrange, Troup County, Georgia

TRIP BY:

Andrew Taft, CERCLA Site Assessment Coordinator
Land Protection Branch
GA Environmental Protection Division (GA EPD)

AST

ACCOMPANIED BY:

Greg Gilmore, Geologist
Land Protection Branch, GA EPD

David Hayes, Environmental Engineer
Land Protection Branch, GA EPD

John Maddox, Environmental Compliance Specialist
Land Protection Branch, GA EPD

Luis Medina, Environmental Compliance Specialist
Land Protection Branch, GA EPD

Larry Papetti, Geologist
Land Protection Branch, GA EPD

Donna Seadler
Superfund Site Assessment Manager
U.S. Environmental Protection Agency (U.S. EPA)

Fred Sloan, Environmental Engineer
Science and Ecosystem Support Division, U.S. EPA

DATES OF TRIP:

April 19 and 20, 2010

OFFICIALS CONTACTED:

Kenny Manis, Performance System Engineer
Mark Moe, Senior Environmental Chemist
Johnny Norred, Laboratory Technician
Ben Williams, Senior Environmental Chemist

REFERENCE:

Sampling Event (Phase II of II) for Site Inspection (SI)

PURPOSE:

The purpose of the sampling event was to implement Phase II of II sampling activities in accordance with the U.S. EPA approved March 2010 Sampling and Analysis Plan for Site Inspection. During the sampling event, U.S. EPA representative Mr. Fred Sloan conducted an independent audit of the GA EPD's field operating procedures.

COMMENTS:

As part of documenting Phase II of II sampling activities, a table setting forth samples collected, a figure depicting on-site and nearby sample locations and a figure depicting Granger Park sample locations are included as Attachment A, Attachment B and Attachment C respectively.

A total of twenty-five (25) samples were collected during the April 19 and 20, 2010 Phase II of II sampling event that included: three (3) Waste Liquid (WL) samples, one (1) Waste Solid (WS) sample, three (3) Surface Water (SW) samples, three (3) Sediment (SED) samples, two (2) Subsurface Soil (SUB) samples and thirteen (13) Surface Soil (SS) samples [one of which was a Duplicate (DUP)] as follows:

I. MONDAY, APRIL 19, 2010

A. Sampling Team A (Maddox, Medina and Taft)

1. Waste Liquid (WL) sample **HW10996** collected on-site @ 11:28 from Sample Station No. STA-14-WL (33.02314° N / 85.05068° W), (see Attachment D: Photos 7 & 8 of 53). As per request, this sample was split with facility representatives.
2. Waste Liquid (WL) sample **HW10997** collected on-site @ 12:40 from Sample Station No. STA-15-WL (33.02258° N / 85.05012° W), (see Attachment D: Photos 5 & 6 of 53).
3. Waste Liquid (WL) sample **HW11014** collected on-site @ 14:20 from Sample Station No. STA-28-WL (33.02058° N / 85.04898° W), (see Attachment D: Photos 3 & 4 of 53).
4. Waste Solid (WS) sample **HW10998** collected on-site @ 15:20 from Sample Station No. STA-16-WS (33.01953° N / 85.04975° W), (see Attachment D: Photos 1 & 2 of 53).
5. Surface Soil (SS) sample **HW11002** collected on-site @ 16:30 Sample Station No. STA-19-SS (33.02322° N / 85.04865° W), (see Attachment D: Photos 9 & 10 of 53). As per request, this sample was split with facility representatives.

6. Surface Soil (SS) sample **HW11003** collected on-site @ 17:20 from Sample Station No. STA-20-SS (33.02089° N / 85.04772° W), (see Attachment D: Photos 11 & 12 of 53).

A copy of logbook documentation for the above referenced six (6) samples is included as Attachment E (Section 1): Medina Logbook - 04/19/2010.

B. Sampling Team B (Hayes and Papetti)

1. Surface Water (SW) sample **HW10994** collected off-site @ 10:30 from Sample Station No. STA-13-SW (33.04802° N / 85.03983° W), (see Attachment D Photos 14 & 15 of 53).
2. Sediment (SED) sample **HW10995** collected off-site @ 10:45 from Sample Station No. STA-13-SED (33.04802° N / 85.03983° W), (see Attachment D Photos 13 – 15 of 53).
3. Surface Water (SW) sample **HW10992** collected on-site @ 13:15 from Sample Station No. STA-12-SW (33.02058° N / 85.04921° W), (see Attachment D Photos 17 & 18 of 53). As per request, this sample was split with facility representatives.
4. Sediment (SED) sample **HW10993** collected on-site @ 13:40 from Sample Station No. STA-12-SED (33.02058° N / 85.04921° W), (see Attachment D: Photos 16 – 18 of 53). As per request, this sample was split with facility representatives.
5. Surface Water (SW) sample **HW10990** collected on-site @ 16:15 from Sample Station No. STA-11-SW (33.02228° N / 85.05020° W), (see Attachment D: Photos 20 & 21 of 53).
6. Sediment (SED) sample **HW10991** collected on-site @ 16:30 from Sample Station No. STA-11-SED (33.02228° N / 85.05020° W), (see Attachment D: Photos 19 – 21 of 53).
7. Surface Soil (SS) sample **HW11001** collected on-site @ 18:00 from Sample Station No. STA-18-SS (33.02487° N / 85.04832° W), (see Attachment D: Photos 22 – 24 of 53). As per request, this sample was split with facility representatives.

A copy of logbook documentation for the above referenced seven (7) samples is included as Attachment E (Section 2): Papetti Logbook - 04/19/2010.

II. TUESDAY, APRIL 20, 2010

C. Sampling Team C (Hayes, Medina and Taft)

1. Surface Soil (SS) sample **HW11010** collected on-site @ 9:10 from Sample Station No. STA-26-SS (33.02295° N / 85.05066° W), (see Attachment D: Photos 25 – 27 of 53). As per request, this sample was split with facility representatives.
2. Surface Soil (SS) sample **HW11011** collected on-site @ 13:05 from Sample Station No. STA-29-SS (33.02283° N / 85.05055° W), (see Attachment D: Photos 28 – 30 of 53).
3. Surface Soil (SS) sample **HW11004** collected off-site @ 14:15 from Sample Station No. STA-21-SS (33.02086° N / 85.05042° W), (see Attachment D: Photos 31 – 33 of 53).
4. Surface Soil (SS) sample **HW11006** collected off-site @ 14:55 from Sample Station No. STA-23-SS (33.02137° N / 85.05076° W), (see Attachment D: Photos 34 – 36 of 53).
5. Surface Soil (SS) sample **HW11009** collected off-site @ 15:50 from Sample Station No. STA-25-SS (33.02216° N / 85.05128° W), (see Attachment D: Photos 37 – 39 of 53).

A copy of logbook documentation for the above referenced five (5) samples is included as Attachment E (Section 3): Taft Logbook - 04/20/2010.

D. Sampling Team D (Gilmore and Papetti)

1. Surface Soil (SS) sample **HW11012** collected on-site @ 9:30 from Sample Station No. STA-27-SS (33.02271° N / 85.05035° W), (see Attachment D: Photos 40, 42 & 43 of 53). As per request, this sample was split with facility representatives.
2. Subsurface (SUB) sample **HW11013** collected on-site @ 9:55 from Sample Station No. STA-27-SUB (33.02271° N / 85.05035° W), (see Attachment D: Photos 41 – 43 of 53). As per request, this sample was split with facility representatives.
3. Surface Soil (SS) sample **HW11005** collected on-site @ 12:45 from Sample Station No. STA-22-SS (33.02132° N / 85.05047° W), (see Attachment D: Photos 44, 48 & 49 of 53).

4. Surface Soil (SS) sample **HW11007** collected on-site @ 13:25 from Sample Station No. STA-24-SS (33.02178° N / 85.05086° W), (see Attachment D: Photos 45 – 47 of 53).
5. Duplicate (DUP) sample **HW11008** collected on-site @ 13:25 from Sample Station No. STA-24-DUP (33.02178° N / 85.05086° W), (see Attachment D: Photos 45 – 47 of 53).
6. Surface Soil (SS) sample **HW10999** collected off-site @ 15:20 from Sample Station No. STA-17-SS (33.04940° N / 85.03731° W), (see Attachment D: Photos 50, 52 & 53).
7. Subsurface Soil (SUB) sample **HW11000** collected off-site @ 15:50 from Sample Station No. STA-17-SUB (33.04940° N / 85.03731° W), (see Attachment D: Photos 51 – 53).

A copy of logbook documentation for the above referenced seven (7) samples is included as Attachment E (Section 4): Papetti Logbook - 04/20/2010.

RECOMMENDATIONS & FOLLOW-UP REQUIRED:

Await receipt of analytical results from GA EPD Laboratory (estimate 6 weeks from date of sampling event). Use information documented herein (in conjunction with additional information) to complete a Site Inspection (SI) report.

ATTACHMENTS:

- A: Table 1 - Phase II Sample Collection
- B: Figure 1 - Phase II Sample Station Locations (On-Site & Nearby)
- C: Figure 2 - Phase II Sample Station Locations (Granger Park)
- D: Fifty-Three (53) Photographs
- E: Logbook Documentation
 - Section 1: Medina Logbook – 04/19/2010
 - Section 2: Papetti Logbook – 04/19/2010
 - Section 3: Taft Logbook – 04/20/2010
 - Section 4: Papetti Logbook – 04/20/2010

REVEIWED BY:  _____

ATTACHMENT A: Table 1 – Phase II Sample Collection

TABLE 1 - PHASE II SAMPLE COLLECTION
Site Inspection – Milliken & Company
April 19 and 20, 2010

SAMPLE MEDIA / SAMPLE TYPE	STATION NO.	SAMPLE DESCRIPTION AND OBJECTIVE
	SAMPLE NO.	
Surface Water / Release (Perennial)	STA-11-SW HW10990	Surface water collected on-site from fire pond to determine whether hazardous substances at least partially attributable to the site are present at this location.
Sediment / Release (Perennial)	STA-11-SED HW10991	Sediment collected on-site from fire pond to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Water / Release (Perennial)	STA-12-SW HW10992	Surface water collected on-site from fire pond to determine whether hazardous substances at least partially attributable to the site are present at this location.
Sediment / Release (Perennial)	STA-12-SED HW10993	Sediment collected on-site from fire pond to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Water / Background (Perennial)	STA-13-SW HW10994	Surface water collected off-site from Granger Park pond to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.
Sediment / Background	STA-13-SED HW10995	Sediment collected off-site from Granger Park pond (to determine whether hazardous substances <u>not</u> attributable to the site are present at this location.
Waste Liquid / Source Characterization	STA-14-WL HW10996	Waste water collected on-site from concrete neutralization basin to determine whether hazardous substances at least partially attributable to the site are present at this location.
Waste Liquid / Source Characterization	STA-15-WL HW10997	Waste water collected on-site from 12,000 gallon above ground tank to determine whether hazardous substances at least partially attributable to the site are present at this location.
Waste Solid / Source Characterization	STA-16-WS HW10998	Paint chips collected on-site from within multi-story vacant brick building to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Background	STA-17-SS HW10999	Surface soil (0 to 2 feet) collected off-site at Granger Park to determine whether hazardous substances <u>not</u> attributable to the site are present at this location (*Originally proposed off-site near site NW corner).
Subsurface Soil / Background	STA-17-SUB HW11000	Subsurface soil (> 2 feet) collected off-site at Granger Park to determine whether hazardous substances <u>not</u> attributable to the site are present in this location (*Originally proposed off-site near site NW corner).

SAMPLE MEDIA / SAMPLE TYPE	STATION NO. SAMPLE NO.	SAMPLE DESCRIPTION AND OBJECTIVE
Surface Soil / Release & Source Characterization	STA-18-SS HW11001	Surface soil (0 to 2 feet) collected on-site at NE corner to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-19-SS HW11002	Surface soil (0 to 2 feet) collected on-site near eastern boundary to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-20-SS HW11003	Surface soil (0 to 2 feet) collected on-site, near SE corner of to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-21-SS HW11004	Surface soil (0 to 2 feet) collected off-site on contiguous residential property to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-22-SS HW11005	Surface soil (0 to 2 feet) collected on-site between fire pond and Lee Branch to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-23-SS HW11006	Surface soil (0 to 2 feet) collected off-site on contiguous residential property to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-24-SS HW11007	Surface soil (0 to 2 feet) collected on-site between Lee Branch and residential property to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / QA/QC	STA-24-DUP HW11008	Duplicate of STA-24-SS.
Surface Soil / Release & Source Characterization	STA-25-SS HW11009	Surface soil (0 to 2 feet) collected off-site on contiguous residential property to determine whether hazardous substances at least partially attributable to the site are present at this location.
Surface Soil / Release & Source Characterization	STA-26-SS HW11010	Surface soil (0 to 2 feet) collected on-site immediately east of fire pond to determine whether hazardous substances at least partially attributable to the site are present at this location.
Subsurface Soil / Source Characterization	STA-26-SUB UNABLE TO COLLECT	Subsurface soil (> 2 feet) collected on-site immediately east of fire pond at same location as above (*Hand auger refusal above 2 feet precluded sample collection.
Surface Soil / Release & Source Characterization	STA-27-SS HW11012	Surface soil (0 to 2 feet) collected on-site immediately east of fire pond to determine whether hazardous substances at least partially attributable to the site are present at this location.

SAMPLE MEDIA / SAMPLE TYPE	STATION NO. SAMPLE NO.	SAMPLE DESCRIPTION AND OBJECTIVE
Subsurface Soil / Source Characterization	STA-27-SUB HW11013	Subsurface soil (> 2 feet) collected on-site immediately east of fire pond to determine whether hazardous substances at least partially attributable to the site are present at this location.
Waste Liquid / Source Characterization	STA-28-WL HW11014	Waste water collected on-site from sump near Fourth Avenue to determine whether hazardous substances at least partially attributable to the site are present at this location (*Not originally proposed).
Surface Soil / Release & Source Characterization	STA-29-SS HW11011	Surface soil (0 to 2 feet) collect on-site immediately east of fire pond to determine whether hazardous substances at least partially attributable to the site are present at this location (*Not originally proposed).

**ATTACHMENT B: Figure 1 – Phase II Sample Station Locations
(On-site and Nearby)**



**ATTACHMENT C: Figure 2 – Phase II Sample Station Locations
(Granger Park, LaGrange, Georgia)**



N ↑



soil



surface water/sediment

ATTACHMENT D: Fifty-Three (53) Photographs



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

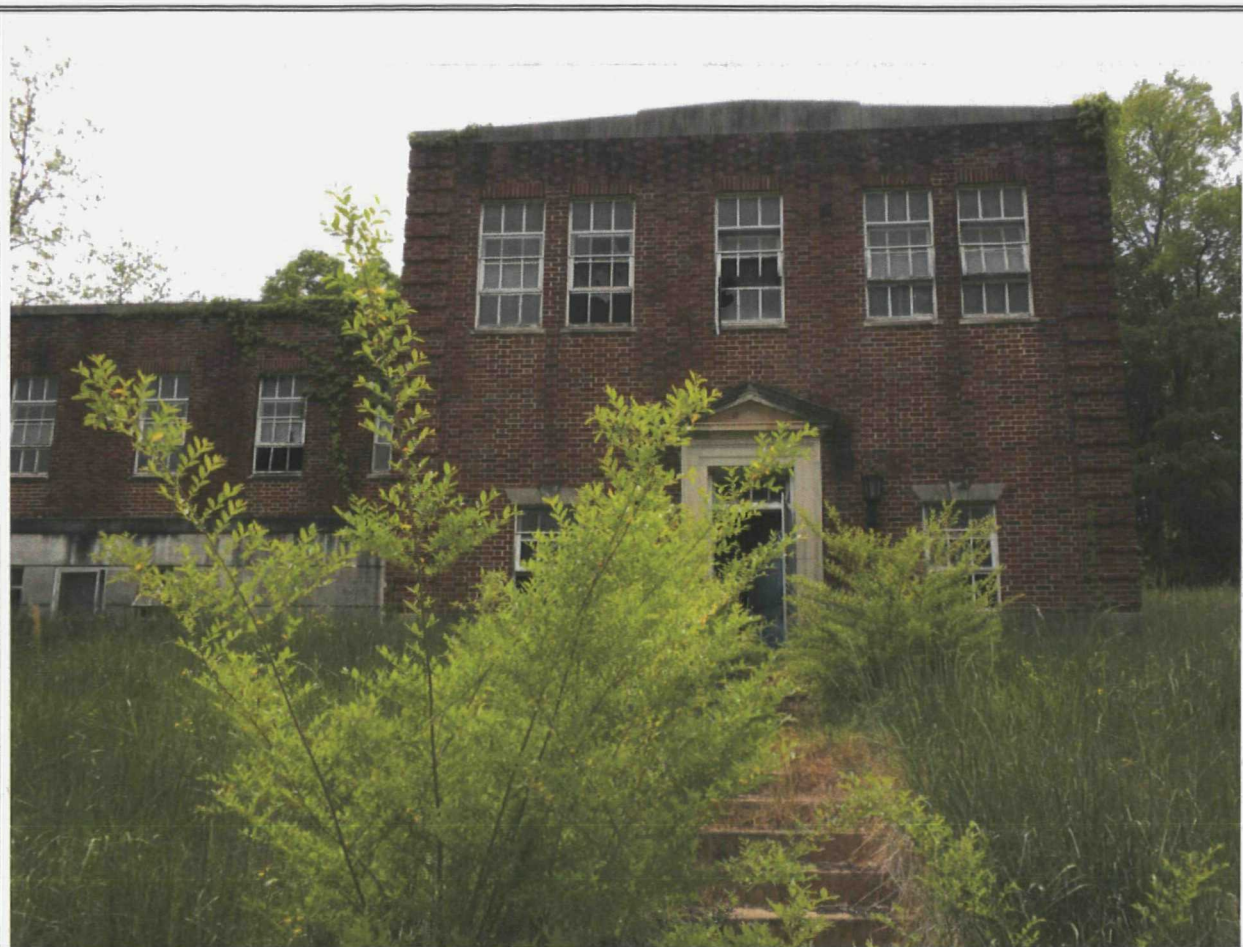
Photo Date / Photo Time: April 19, 2010 / 15:20

Photo Number / Direction Facing: 1 of 53 / Northeast

Photographer: Luis Medina

Photo Description:

Depiction of waste paint chips collected from on-site Sample Station No. STA-16-WS (HW10998).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 15:24

Photo Number / Direction Facing: 2 of 53 / West

Photographer: Luis Medina

Photo Description:

On-site Sample Station No. STA-16-WS (HW10998) is located within the depicted multi-story brick building (behind open blue door).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 15:45

Photo Number / Direction Facing: 3 of 53 / Northeast

Photographer: Luis Medina

Photo Description:

Depiction of sump near Forth Avenue where waste water was collected from on-site Sample Station No. STA-28-WL (HW11014).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 15:45

Photo Number / Direction Facing: 4 of 53 / East

Photographer: Luis Medina

Photo Description:

Depiction of sump near Forth Avenue where waste water was collected from on-site Sample Station No. STA-28-WL (HW11014).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 15:52

Photo Number / Direction Facing: 5 of 53 / South

Photographer: Luis Medina

Photo Description:

Depiction of tank valve where waste water was collected from on-site Sample Station No. STA-15-WL (HW10997).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 15:52

Photo Number / Direction Facing: 6 of 53 / Southwest

Photographer: Luis Medina

Photo Description:

Depiction of one (1) of two (2) 12,000 gallon above ground storage tanks where waste water was collected from on-site Sample Station No. STA-15-WL (HW10997).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 15:56

Photo Number / Direction Facing: 7 of 53 / Not Applicable

Photographer: Luis Medina

Photo Description:

Depiction of concrete neutralization basin where waste water was collected from on-site Sample Station No. STA-14-WL (HW10996).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 15:57

Photo Number / Direction Facing: 8 of 53 / East

Photographer: Luis Medina

Photo Description:

Depiction of concrete neutralization basin where waste water was collected from on-site Sample Station No. STA-14-WL (HW10996).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 16:48

Photo Number / Direction Facing: 9 of 53 / Not Applicable

Photographer: Luis Medina

Photo Description:

Depiction of surficial soil sample matrix collected from on-site Sample Station No. STA-19-SS (HW11002).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 16:49

Photo Number / Direction Facing: 10 of 53 / West

Photographer: Luis Medina

Photo Description:

Depiction of immediate vicinity of on-site Sample Station No. STA-19-SS (HW11002).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 17:27

Photo Number / Direction Facing: 11 of 53 / Not Applicable

Photographer: Luis Medina

Photo Description:

Depiction of surficial soil sample matrix collected from on-site Sample Station No. STA-20-SS (HW11003).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 17:27

Photo Number / Direction Facing: 12 of 53 / West

Photographer: Luis Medina

Photo Description:

Depiction of immediate vicinity of on-site Sample Station No. STA-20-SS (HW11003). Note Fourth Avenue in background.



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 10:17

Photo Number / Direction Facing: 13 of 53 / Not Applicable

Photographer: Larry Papetti

Photo Description:

Depiction of sediment sample matrix collected from off-site Sample Station No. STA-13-SED (HW10995).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 10:34

Photo Number / Direction Facing: 14 of 53 / Northeast

Photographer: Larry Papetti

Photo Description:

Depiction of pond at Granger Park in vicinity of where surface water and sediment samples were collected from off-site Sample Station Nos. STA-13-SW and STA-13-SED respectively (HW10994 and HW10995 respectively).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 10:38

Photo Number / Direction Facing: 15 of 53 / Southwest

Photographer: Larry Papetti

Photo Description:

Depiction of pond at Granger Park where surface water and sediment samples were collected from off-site Sample Station Nos. STA-13-SW and STA-13-SED respectively (HW10994 and HW10995 respectively).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 14:18

Photo Number / Direction Facing: 16 of 53 / Not Applicable

Photographer: Larry Papetti

Photo Description:

Depiction of sediment sample matrix collected from on-site Sample Station No. STA-12-SED (HW10993).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 14:46

Photo Number / Direction Facing: 17 of 53 / Northwest

Photographer: Larry Papetti

Photo Description:

Depiction of on-site fire pond in vicinity of where surface water and sediment samples were collected from on-site Sample Station Nos. STA-12-SW and STA-12-SED respectively (HW10992 and HW10993 respectively).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 14:47

Photo Number / Direction Facing: 18 of 53 / Northwest

Photographer: Larry Papetti

Photo Description:

Depiction of on-site fire pond in vicinity of where surface water and sediment samples were collected from on-site Sample Station Nos. STA-12-SW and STA-12-SED respectively (HW10992 and HW10993 respectively).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

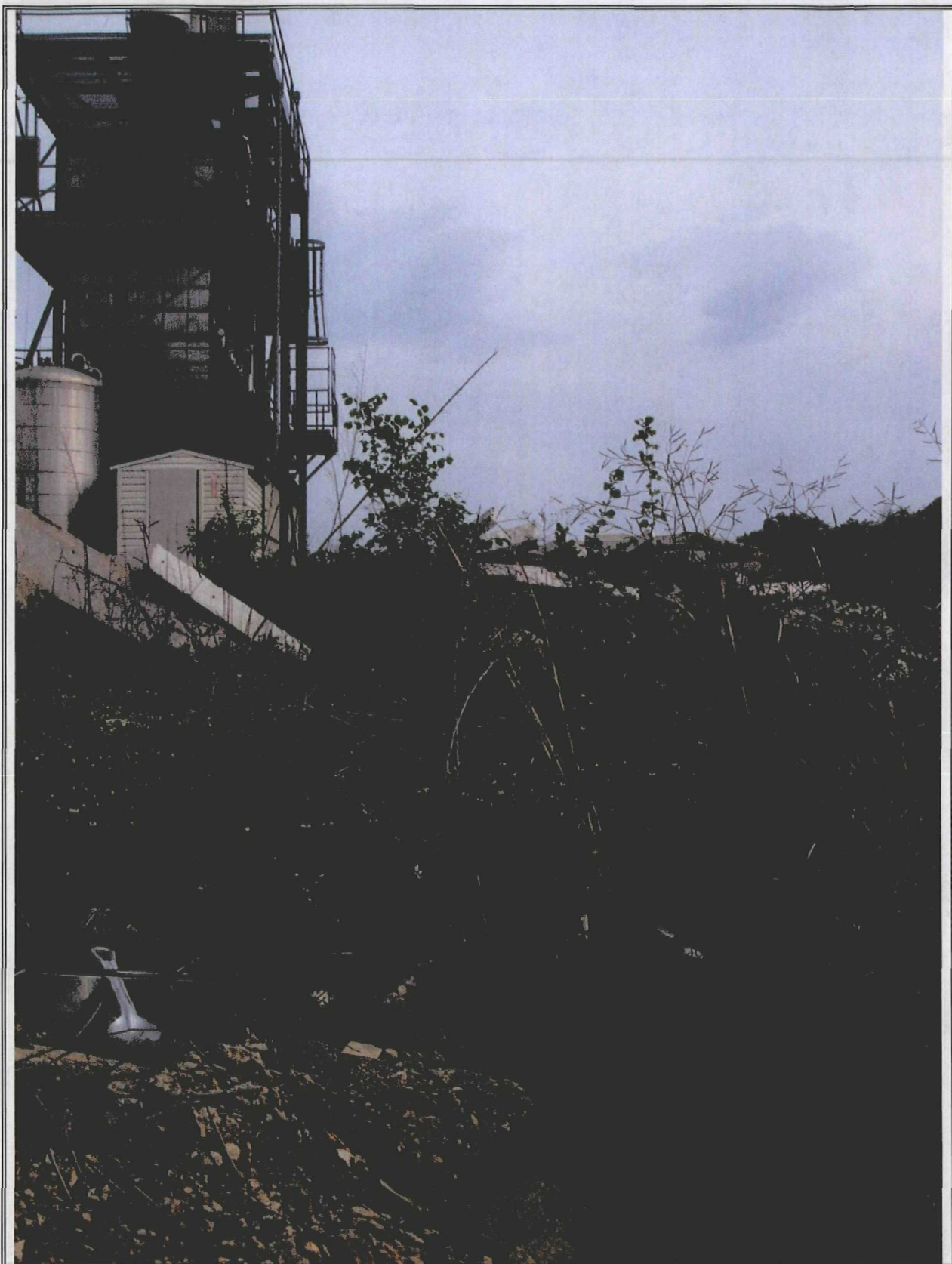
Photo Date / Photo Time: April 19, 2010 / 15:54

Photo Number / Direction Facing: 19 of 53 / Not Applicable

Photographer: Larry Papetti

Photo Description:

Depiction of sediment sample matrix collected from on-site Sample Station No. STA-11-SED (HW10991).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 16:15

Photo Number / Direction Facing: 20 of 53 / Southeast

Photographer: Larry Papetti

Photo Description:

Depiction of area near on-site fire pond in vicinity of where surface water and sediment samples were collected from on-site Sample Station Nos. STA-11-SW and STA-11-SED respectively (HW10990 and HW10991 respectively).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 / 16:17

Photo Number / Direction Facing: 21 of 53 / Northeast

Photographer: Larry Papetti

Photo Description:

Depiction of area near on-site fire pond in vicinity of where surface water and sediment samples were collected from on-site Sample Station Nos. STA-11-SW and STA-11-SED respectively (HW10990 and HW10991 respectively).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 /

Photo Number / Direction Facing: 22 of 53 / Not Applicable

Photographer: Larry Papetti

Photo Description:

Depiction of surficial soil sample matrix collected from on-site Sample Station No. STA-18-SS (HW11001).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 /

Photo Number / Direction Facing: 23 of 53 / West

Photographer: Larry Papetti

Photo Description:

Depiction of immediate vicinity of on-site Sample Station No. STA-18-SS (HW11001).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 19, 2010 /

Photo Number / Direction Facing: 24 of 53 / North

Photographer: Larry Papetti

Photo Description:

Depiction of general vicinity of on-site Sample Station No. STA-18-SS (HW11001).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 9:41

Photo Number / Direction Facing: 25 of 53 / Not Applicable

Photographer: Andrew Taft

Photo Description:

Depiction of surficial soil sample matrix collected from on-site Sample Station No. STA-26-SS (HW11010).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 9:54

Photo Number / Direction Facing: 26 of 53 / West

Photographer: Andrew Taft

Photo Description:

Depiction of general vicinity of on-site Sample Station No. STA-26-SS (HW11010).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 9:55

Photo Number / Direction Facing: 27 of 53 / Not Applicable

Photographer: Andrew Taft

Photo Description:

Depiction of immediate vicinity of on-site Sample Station No. STA-26-SS (HW11010).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 13:22

Photo Number / Direction Facing: 28 of 53 / Not Applicable

Photographer: Andrew Taft

Photo Description:

Depiction of surficial soil sample matrix collected from on-site Sample Station No. STA-29-SS (HW11011).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 13:30

Photo Number / Direction Facing: 29 of 53 / South

Photographer: Andrew Taft

Photo Description:

Depiction of immediate vicinity of on-site Sample Station No. STA-29-SS (HW11011).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 13:33

Photo Number / Direction Facing: 30 of 53 / West

Photographer: Andrew Taft

Photo Description:

Depiction of general vicinity of on-site Sample Station No. STA-29-SS (HW11011).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 14:30

Photo Number / Direction Facing: 31 of 53 / Not Applicable

Photographer: Andrew Taft

Photo Description:

Depiction of surficial soil sample matrix collected from off-site Sample Station No. STA-21-SS (HW11004).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 14:39

Photo Number / Direction Facing: 32 of 53 / Northeast

Photographer: Andrew Taft

Photo Description:

Depiction of immediate vicinity of off-site Sample Station No. STA-21-SS (HW11004).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 14:40

Photo Number / Direction Facing: 33 of 53 / West

Photographer: Andrew Taft

Photo Description:

Depiction of general vicinity of off-site Sample Station No. STA-21-SS (HW11004). This sample station is located on contiguous residential property immediately west of the site [approximately thirty (30) feet from the depicted residential structure].



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 15:07

Photo Number / Direction Facing: 34 of 53 / Not Applicable

Photographer: Andrew Taft

Photo Description:

Depiction of surficial soil sample matrix collected from off-site Sample Station No. STA-23-SS (HW11006).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 15:21

Photo Number / Direction Facing: 35 of 53 / West

Photographer: Andrew Taft

Photo Description:

Depiction of immediate vicinity of off-site Sample Station No. STA-23-SS (HW11006).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 15:22

Photo Number / Direction Facing: 36 of 53 / West

Photographer: Andrew Taft

Photo Description:

Depiction of general vicinity of off-site Sample Station No. STA-23-SS (HW11006). This sample station is located on contiguous residential property immediately west of the site [approximately thirty-seven (37) feet from the depicted residential structure].



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 16:18

Photo Number / Direction Facing: 37 of 53 / Not Applicable

Photographer: Andrew Taft

Photo Description:

Depiction of surficial soil sample matrix collected from off-site Sample Station No. STA-25-SS (HW11009).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 16:26

Photo Number / Direction Facing: 38 of 53 / Not Applicable

Photographer: Andrew Taft

Photo Description:

Depiction of immediate vicinity of off-site Sample Station No. STA-25-SS (HW11009).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 16:27

Photo Number / Direction Facing: 39 of 53 / West

Photographer: Andrew Taft

Photo Description:

Depiction of general vicinity of off-site Sample Station No. STA-25-SS (HW11009). This sample station is located on contiguous residential property immediately west of the site [approximately fifty-six (56) feet from the depicted residential structure at left, approximately forty-two (42) feet from the depicted residential structure at right].



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 8:24

Photo Number / Direction Facing: 40 of 53 / Not Applicable

Photographer: Larry Papetti

Photo Description:

Depiction of surficial soil sample matrix collected from on-site Sample Station No. STA-27-SS (HW11012).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 9:07

Photo Number / Direction Facing: 41 of 53 / Not Applicable

Photographer: Andrew Taft

Photo Description:

Depiction of subsurface soil sample matrix collected from on-site Sample Station No. STA-27-SUB (HW11013).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 9:29

Photo Number / Direction Facing: 42 of 53 / Southwest

Photographer: Andrew Taft

Photo Description:

Depiction of general vicinity where surficial soil and sub-surface soil samples were collected from on-site Sample Station Nos. STA-27-SS and STA-27-SUB respectively (HW11012 and HW11013 respectively).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 9:31

Photo Number / Direction Facing: 43 of 53 / Southwest

Photographer: Larry Papetti

Photo Description:

Depiction of immediate vicinity where surficial soil and sub-surface soil samples were collected from on-site Sample Station Nos. STA-27-SS and STA-27-SUB respectively (HW11012 and HW11013 respectively).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 12:04

Photo Number / Direction Facing: 44 of 53 / Not Applicable

Photographer: Larry Papetti

Photo Description:

Depiction of surficial soil sample matrix collected from on-site Sample Station No. STA-22-SS (HW11005).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 13:00

Photo Number / Direction Facing: 45 of 53 / Not Applicable

Photographer: Larry Papetti

Photo Description:

Depiction of surficial soil sample matrix collected from on-site Sample Station Nos. STA-24-SS and STA-24-DUP (HW11007 and HW 11008 respectively).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

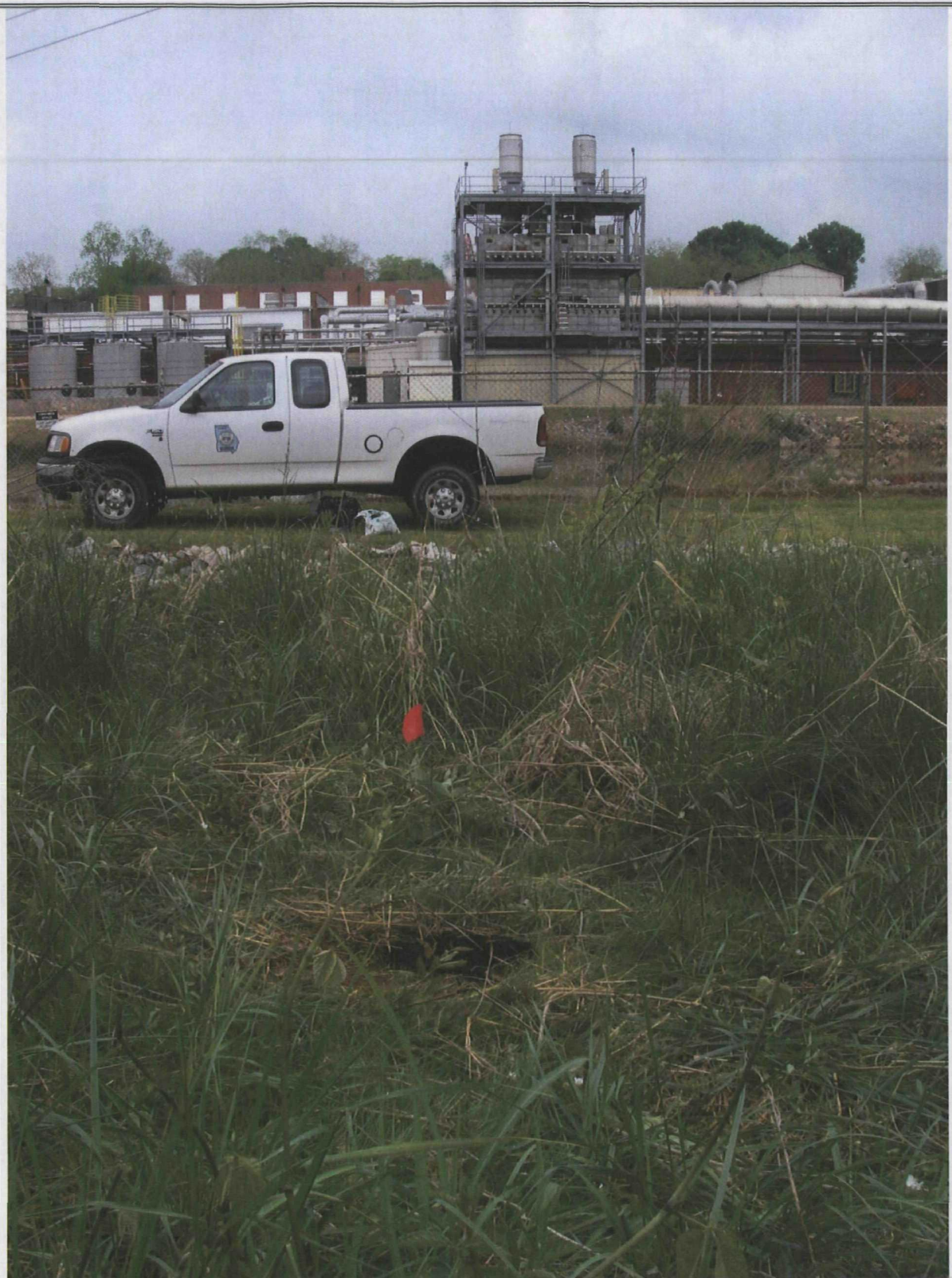
Photo Date / Photo Time: April 20, 2010 / 13:20

Photo Number / Direction Facing: 46 of 53 / Southwest

Photographer: Larry Papetti

Photo Description:

Depiction of general vicinity of where surficial soil samples were collected from on-site Sample Station Nos. STA-24-SS and STA-24-DUP (HW11007 and HW 11008 respectively).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 13:21

Photo Number / Direction Facing: 47 of 53 / East

Photographer: Larry Papetti

Photo Description:

Depiction of immediate vicinity of where surficial soil samples were collected from on-site Sample Station Nos. STA-24-SS and STA-24-DUP (HW11007 and HW11008 respectively).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 13:32

Photo Number / Direction Facing: 48 of 53 / West

Photographer: Larry Papetti

Photo Description:

Depiction of immediate vicinity of where surficial soil sample was collected from on-site Sample Station No. STA-22-SS (HW11005).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 13:34

Photo Number / Direction Facing: 49 of 53 / East

Photographer: Larry Papetti

Photo Description:

Depiction of immediate vicinity of where surficial soil sample was collected from on-site Sample Station No. STA-22-SS (HW11005).



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 14:29

Photo Number / Direction Facing: 50 of 53 / Not Applicable

Photographer: Larry Papetti

Photo Description:

Depiction of surficial soil sample matrix collected from off-site Sample Station No. STA-17-SS (HW10999) located in Granger Park.



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 14:53

Photo Number / Direction Facing: 51 of 53 / Not Applicable

Photographer: Larry Papetti

Photo Description:

Depiction of subsurface soil sample matrix collected from off-site Sample Station No. STA-17-SUB (HW11000) located at Granger Park.



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 15:10

Photo Number / Direction Facing: 52 of 53 / Northeast

Photographer: Larry Papetti

Photo Description:

Depiction of general vicinity of where surface and subsurface soil samples were collected from off-site Sample Station Nos. STA-17-SS and STA-17-SUB respectively (HW10999 and HW11000 respectively) located at Granger Park.



Site Name: Milliken and Company

Site Address: 1300 Brownwood Avenue, LaGrange, Troup County, Georgia

Photo Date / Photo Time: April 20, 2010 / 15:10

Photo Number / Direction Facing: 53 of 53 / Southwest

Photographer: Larry Papetti

Photo Description:

Depiction of immediate vicinity of where surface and subsurface soil samples were collected from off-site Sample Station Nos. STA-17-SS and STA-17-SUB respectively (HW10999 and HW11000 respectively) located at Granger Park.

ATTACHMENT E: Logbook Documentation

SECTION 1: Medina Logbook – 04/19/2010

Project: Milliken + Co.
LaGrange, GA

Date: April 19, 2010

Team Members:

Andy Taft - GAEPD

John MacDox - GAEPD

Luis Medina - GAEPD/PM

Bought ice before arrival at the site.

Arrival to site: 10:10

Met with MARK MOE and
other company reps to
review our sampling plan.

They said they want split
samples; they'll provide the bottles.

HW 10996

Sampling Station STA-14-WL
at Complex Neutralization Pit,
Location for first samples
Coordinates:

33.02314°N

85.05068°W

Acc 10 ft.

Photo #1 - Down at the tank

Photo #2 - Looking east with tank in
foreground and plant in background.
4/19/10 Luis E. Medina

Method of collection: Peristaltic pump,
Vacuum Jug Assembly with
Teflon tubing as it goes into tank
Matrix: Waste Liquid

R. Taft - sample collector

J. MacDox - tubing handler

L. Medina - notes, sample
jar handler, coords

11:28

Time of collection: 11:28 AM

Descr: Sample was milky white,
with some particles.

* Sample iced-up immediately after collection*

HW 10997

Sampling Station STA-15-WL
at Above-ground 12,000 gal tank
containing zinc-wastewater

Coordinates:

33.02258°N

85.05012°W

Acc 14 ft

Luis E. Medina 4/19/10

Method of Collection:

Directly from TANK spigot

MATRIX: Waste Liquid

A. TAFT - sample collector (see note below)

J. MacDox - bottle handler, TAGS

L. Medina - notes, coords

Time of Collection: 12:40

Sample Description: Black liquid,
thin, low viscosity. Only collected
1 metal bottle, 1 glass bottle.

Photo #1 - DOWN at TANK

spigot from where sample was taken.

Photo #2 - Looking west at
above-ground storage TANK

Note: Sample collected by Milliken employee in our presence

~~* Sample iced-up immediately after collection~~

HW 11014

Sampling Station STA-28-WL
at 4th AVE PIT Intermediate
Transfer pump,

Coords:

33. 02058°N

85. 04898°W

Acc 17 FT

Jana E. Mullina
4/19/10Method of Collection: Peristaltic pump,
Vacuum Jog Assembly w/ Teflon
Tubing.

MATRIX: Waste Liquid

A. TAFT - sample collector

J. MacDox - tubing handler

L. Medina - notes, coords, sample
jar handler.Time of Collection: 13:20 ~~EST~~
14:20Description of Sample: Greyish
white liquid, some black
particles.Photo #1 - DOWN at the pit/inter-
mediate transfer pump.Photo #2 - Looking east at the
pit/transfer pump, with
Valway Plant Entrance and
Fourth Ave in the background.~~* Sample iced-up immediately after collection~~Jana E. Mullina
4/19/10

HW 10998

Sampling Station - STA-16-WS
at Defunct old water treatment
plant on Fourth Avenue, inside
2-story brick building.

Coords:

33.01953°N

85.04975°W

Acc. 18 ft

Method of collection:

Spoon collection of paint
chips on the floor inside
the 2-story brick building.

MATRIX: waste paint chip.

A. Taft - Sampler

J. Maddox - Bottle handler

L. Medina - Notes, coords

Time of Collection: 15:20

Description of Sample: Red and
white paint chips, fine to
quarter-size, behind
Joe Medina 4/19/10

the front door, brick wall back-
ground.

Photo #1 - Looking down at area
where paint chips were
collected

Photo #2 - Looking west at
building where sample was taken,
2-story brick building.

* Sample iced up immediately after collection *

A. Taft asked Mr. Moe who the
property owner is, and he
wasn't sure but thinks
Milliken is the owner of the
old water treatment plant,
and the property it sits on.

A company representative was present
for every sample collected.

Fred Sloan from EPA is auditing our
sample collection procedures.

Joe E. Medina
4/19/10

HW 11002
 Sampling Station - STA-19-SS
 at grassy north outside
 development sawing bay
 building west of Lincoln St,
 between First and Second
 Avenue, close to the drop.

Method ~~SEM~~

Coordinates:

33.02322°N

85.04865°W

Acc 15 ft

Method of Collection: ~~SEM~~
 Spoon and bowl, 0-8 inches

Matrix: Soil, Surface

A. Taft - Sampler

J. Maddox - Jar/Container handler

L. Medina - Notes, Coords

Time of Collection: 16:30

Jojo E Medina 4/19/10

Description of Sample: ~~Red clay~~
 Reddish brown ^{SEM} red clay; 0-8 inches.

Photo #1 - DOWN at the sample
 bowl

Photo #2 - Looking west at sample
 location with building in the
 background behind the chain-
 link fence.

~~* Sample iced-up immediately after collection *~~

HW 11003

Sampling Station - STA-20-SS
 at grassy area between the
 building and the fence by
 Fourth Avenue.

Coordinates:

33.02089°N

85.04772°W

Acc. 17 ft

Method of Collection: Spoon and
 bowl, 0-8 inches.

Jojo E Medina
 4/19/10

MATRIX - Surface Soil

A. TAFT - Sampler, bottle handler
 J. MADDOX - Sampler, bottle handler
 L. MEDINA - NOTES, COORDS,
 bottle handler.

Time of Collection: 17:20

Description of Samples:
 reddish brown to red clay;
 0-8 inches deep.

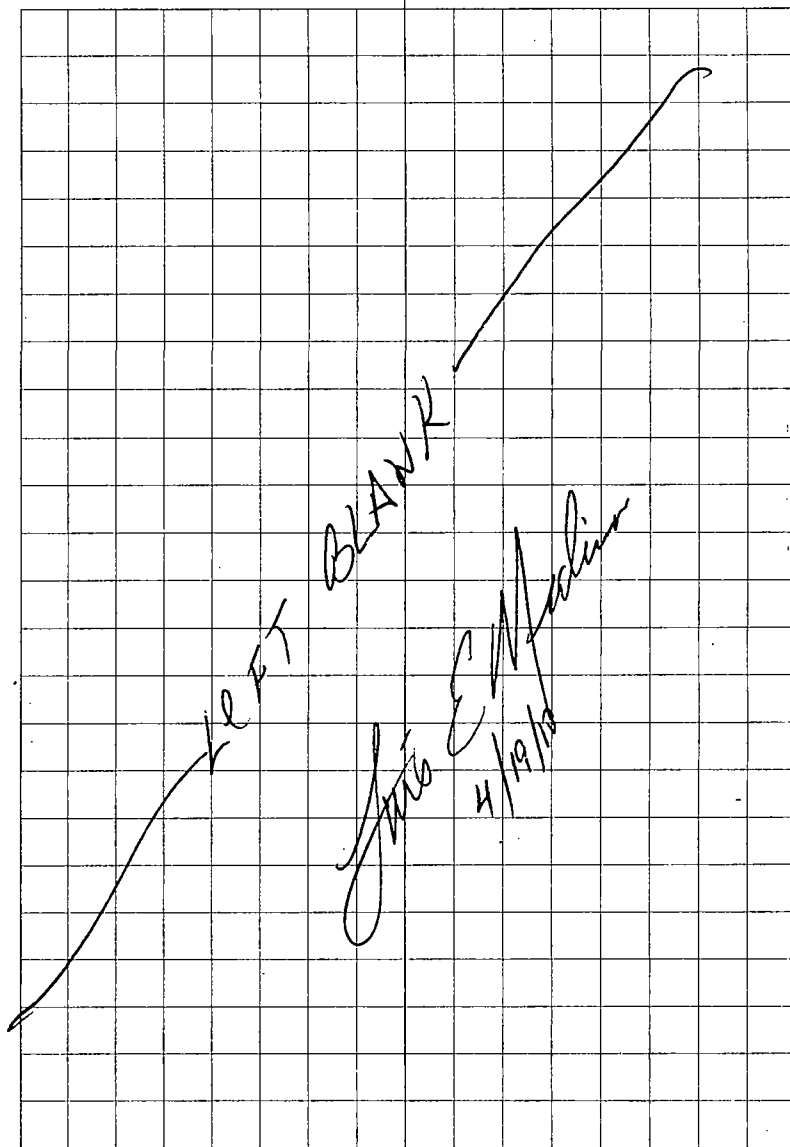
Photo #1 - DOWN at the sample
 bowl.

Photo #2 - LOOKING west
 at the sample location with
 southern wall and Fourth
 Avenue in the background.

* Sample iced-up immediately after collection *

Note: Melted ice was decanted and more ice
 added to each cooler at the end of the day.

4/19/10
 Luis E. Medina



SECTION 2: Papetti Logbook – 04/19/2010

1437 Return
72089

[Signature]
3-2-10



Bret McClellan, P.G.
Environmental Manager

5691 S Richland Creek Road
Buford, GA 30518
770.271.3575 ext 222 • Fax 770.271.2327 • Cell 404.291.0113
bmcclellan@republicservices.com • www.republicservices.com



The city of
EAST POINT
Georgia

KAABA A. JOHNSON
Storm Water Coordinator
Public Works Department

Jefferson Station
1526 E. Forrest Ave. • Suite 400
East Point, Georgia 30344

Office: (404) 270-7104
Cell: (404) 825-9349
Fax: (404) 270-7214

Kajohnson@eastpointcity.org
www.eastpointcity.org

[Signature]
3-2-10

4-19-10

Larry Pappert
0645 Arrive @ office
Loading
David Hayes

- To buy ice before collection of samples
- photograph matrix
- Photograph sampling location
- GPS sampling location
- Record beginning sample time.
- Describe sample matrix

[Signature]
4/19/10

At a minimum, please record the following information in your logbook for each sample collected:

- Rationale
- Sample station identification number and HW Log No.
- Date and time of sample collection for time, record the time that sample containers are first filled – for soil and sediment, this would be when Encore samples are filled).
- Method of collection.
- Number and type of containers.
- Sample collection equipment utilized.
- Physical description of sample.
- Matrix sampled.
- Conditions that may adversely impact quality of samples (i.e., rain, wind, smoke, dust, extreme temperatures, etc.).
- GPS coordinates.
- Measurements of sample location from any relatively nearby stationary object (using tape measure, wheeled measuring device, etc.).
- Photographs to include:
 1. Up-close photo of sample matrix;
 2. Mid-range photo of sample location general vicinity (include any nearby landmark); and
 3. Further-away photo that may include further away landmark(s).
- Any other pertinent information.

HW 10994 STA-13-SW

(Granger Park Pond) surface water

Sampler: L. Papeth, David Hays

Collection Time (beginning): 1030

Rationale of Sample Location: see p. 93

Method of Collection: Dipping bottle by hand

Containers + Type: 6x12 amber, 1x12 plastic

Equipment: 1x12 Plastic, Tripod, 40m, 151, 12

Physical Description of Sample:

slightly cloudy, floating algae, pollen unavoidable. Green-brown color.

GPS Coordinates: see p. 92

Accuracy: 1'

Measurements of Sample Location:

SW corner of pond, 5' from shore.
~100' SW of spillway

Photos:

No. & Description

Close-up: 127 f. 92

Mid-range: 127 spillway

in background view NE

Further-away: 128 view

SW, spillway, soccer field, sample location in background

4/9/10

HW 10995/STA-13-SED
 (Granger Park Pond) sediment
 Samplers: L. Papetti / David Hayes
 Collection time (beginning): 1045
 Rationale of sample location: See p 93
 Method of Collection: Core Sampler
 #/type Containers: 4x 8oz Glass, 1x 4oz Glass,
 1 w/ln Plastic, 4 en Cores, 1x 40ml Trip Blank
 Equipment: Corer + Slide Hammer
 Physical description of Sample:
 Red, Silty-sandy + light
 clay, leaf litter on surface.
 GPS Coordinates: 33.04802 / 85.03983
 Accuracy: 11
 Measurements of sample location:
 P-91

photos

of Description
 Close-up: ~~102~~ matrix lab

Mid-range: P-91

Further-away: P-91

4/19/10

STA-13 notes

Rationale - Shallow place on bank
 is more accessible than other
 areas around pond

Temp. 73° (air) @ ^{12:00} ~~end of sampling~~
 on bench cloth (vergon st)

4/19/11

HW 10990/STA-R-SU

(On-site fire pond)

samplers:

Collection time (beginning): 1615

Rationale of Sample Location: Accessibility
Sediment availabilityMethod of Collection: Dipping container
directly into water#/Type Containers
300s, 10.1L plastic, 1.1L plastic, 611 glass
amber

Equipment: —

Physical description of sample:

slight, cloudy, pollen streaks
in soil

GPS Coordinates: 33.02228

Accuracy: 85.05020 11

Measurements of Sample Location:

P. 96

Photos:

Close-up

Mid-range

further away

No. 9 Description

P. 96



4/10/10

4/19/10

HW 10991/STA-11-SED
(On-site Fire pond)

Samplers: David, Larry

Collection time (beginning): 1630

Rationale of sample location: P. 25

Method of Collection: Spoon

#/Type of Containers: 1402 glass
4 ex cores, 2 w/m plastic, 4-802 glass

Equipment: spoon

Physical Description of Sample:

Red-brown organic rich clay - sand
Silt full of roots. Collected b/wm rip rap

GPS Coordinate

Accuracy:

Measurement of Sample location:

~50' due west of northernmost of 3 above-

ground storage tanks (ASTs) within

berm on W. side of plant

Photos

NO. 21 Description

Close-up

132 matrix

Mid-range

Mid-range

133 SE Plant Stack
in background.

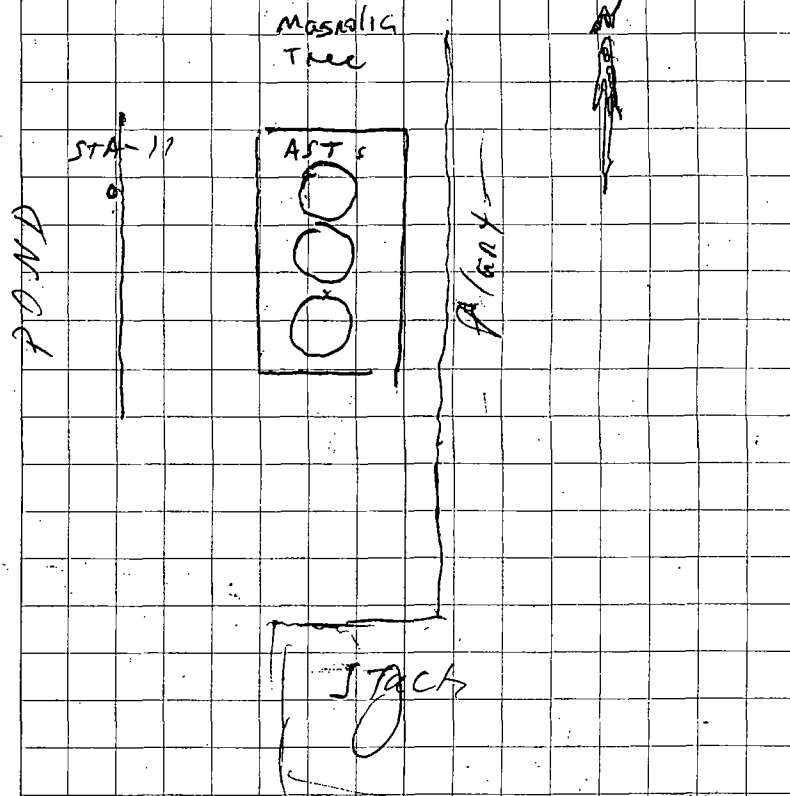
Further away

134 NE Collected

Samples from pond bank directly downhill (W) of
tank on left (northern tank)

5/19/10

STA-11 Notes



Collected Sediment Sample using
spoon from b/wm. Cracks b/wm
concrete rip rap on pond bank

Impossible to use hand auger as
Sediment Coper @ this location
due to rip rap.

5/19/10

Facility RFR did not
show up @ this
location to collect
SP/HS

4/19/10

HW 10992 (STA-12-SW)

(on-site fire pond)

Samplers: David, Larry ^{south end}

Collection time (beginning) 1315

Rationale of Sample location:

Accessibility, material availability

Method of Collection: Dipped bottle by hand

#/Type of Containers 3 vials, 1-0.5 l plast,
1-1 l plastic, 6-1 l glass amber

Equipment: -

Physiogr. description of sample:

Cloudy, Calm, pollen floating on top
slightly

GPS Coordinates: P. 100

Accuracy: P. 100

Measurements of Sample location:

SE corner of pond, 10' from shore

Photos

Close-up:

Mid-range:

Further away:

No. & Description

P. 100

4/19/10

HN 10993 (STA-12-SEA) (on-site fire pond)

Sampler: David, Larry
Collection time (beginning): 1340
Rationale of sample location:

See P. 99

Method of Collection:

#/Type of Containers: 4 en. core, 1 4 oz glass,
1 1/2 m plastic, 4 8 oz glass

Equipment:

Physical description of sample:
P. 101

GPS Coordinates: 33.02058/85.04921

Accuracy: 14'

Measurements of Sample location:

P. 99

Photos

Close-up

No. & Description:

129 Matrix

Mid-range

(31) view N.
Note Pollen on water.

Further away

130 view N.

4/19/10

Sta-12 notes

PRP Water Analytes

VOCs 1L

Metals 1L

Pesticides 1L

Semi VOCs 1L

Split w/ Surface Water

PRP Sediment Analytes

Pestic. 8oz, PCB 8oz, VOCs 8oz, etc.

NO VOCs 2ul of 1L

PRP said were NO VOCs when

± actual. @ 1337, gave

me a VOC bottle &

had to send split

from 2nd core

John & Norris

Sediment 0-0.25 black organic-rich mud

Below 0.25 light, red sandy clay alt w/ black gritty-sandy material w/ wood debris

1533 Mr. Norris brought out a 1/2 l metal/plastic bottle. Didn't tell us before. Had to fill it last 2 ul

STA-18-11

HW 11001 NE

Coral Facility

Samplers: Larry, Luis, David

Collection time: 1800

Method of Collection: Hand auger
& spoon#/Type Containers - 4 in core, 1 900 glass,
1 w/m plastic 4-8 oz glass

Split w/facility ref.

3 4 oz. amber glass

1 8 oz. plastic.

(Vocs, Metals, PCBs, Pestic.)

Honey, Maris

Physical description:

Dry, gravelly silty clay.

Red. Sampled from

4" & deeper.

GPS Coordinates: 33.02487

85.04832 $\pm 18'$

Measurements of sample location:

15' east & ladder to 500 above ground

tanks @ NE Coral Facility.

Photos: Close-up 135 matrix

mid 136 view W

far away: 137 view N.

4/19/10

1902 Arrive @ Moke /

2045-2130

12.5

- Purchasing truck bus

- Icing cooler

- Transferring load between
vehicles

4/19/10

SECTION 3: Taft Logbook – 04/20/2010

①

April 19, 2010

Milliken & Company
Phase II Sampling Activities

Call: Andy Moore
Superintendent of Streets & Drains
City of Lagrange
(706) 881-0145

for access to Granger Park Pond

Meeting at request of faculty 10:30

Ben Williams
Johnny Norred - lab tech
Mark Mac

Andrew Taft
John Maddox
Kerry Manis

Andrew S. Taft 4/19/10

②

1007 Stonewall

Lance Carter

2 residences

Can take samples

Sharon Hearn

1013 Stonewall

4 residences

Can take samples

every time rains back yard
floods

Andrew S. Taft 4/19/10

③

Billie ~~to~~ Polard

905 Apartment A

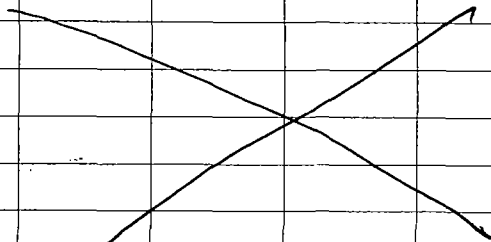
Taft Street

~~2 people~~

2 ^{people} Apt. A

Apt B

don't know



Andrew S. Taft 4/19/10

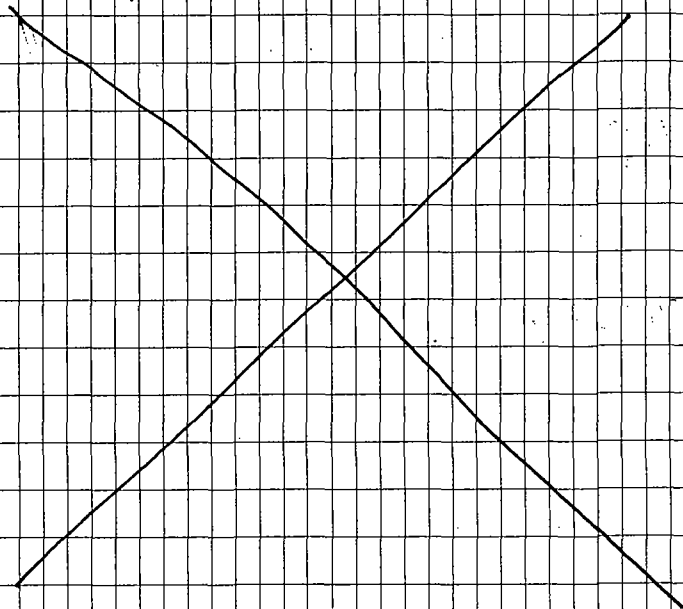
④

Peshur Gates

1001 Stonewall

said it's OK to sample

4 people live there.



Andrew S. Taft 4/19/10

⑤

April 20, 2010

Mulliken & Company

Sample Station STA-26

STA-26-SS (HW11010)

STA-26-SSB (HW11011)

STA-26-SS HW11010

10 containers (including enclosures)

9:30 AM Sample collection time

4" depth - enclose

used auger head and spoon

surface soil sample

raining at time of sample collection

Andrew S. Tipton 4/20/10

⑥

GPS 33.03293

85.0526

±10'

0'-1' sample collection interval

Photo #1 9:45

picture of sample matrix

Photo #2 W 10:00

Photo #3 W 10:00

sample location

HW11011

worked 1 hour to get down to 2'

Couldn't get enough sample

matrix - move sample to diff location

Andrew S. Tipton 4/20/10

(7)

HW11011

new location (new surface sample)

33.02283 85.05055 12 ft

Collection time 13:05

Medina/Hayes/Taft samples

method - stainless spoon

0" - 6" collection interval

10 containers (including VOC non-analytical)

reddish clay with multiple pebbles

stopped raining

Location approx 60' south of
HW11010

Photo 4 13:22

sample matrix

Photo #5 13:30 S

Photo 6 13:33 W Andrew S. Taft 4/20/10

(8)

HW11004 Station 21-SS

1013 Stonewall

measured approx 300 feet from
residential structure to sample
location

Collection interval 3" to

Collection time 2:15 = 14:15

method - stainless steel spoon

GPS Coord = 33.02086 ± 16 ft
85.05042

medium to fine grain sand

Photo #1 14:30 sample method

Photo #2 14:39 NE

Photo #3 14:40 W

Andrew S. Taft 4/20/10

(9)

STA-23-SS HW11006

1007 Stonewall

dark brown clayey silt

Method - stainless spoon

Collection time: 1455

10 containers (including encores)

Measured approx 37' from
sample location to residential
structureGPS 33.02137 ± 17
85.05076Photo #1 ~~3:40~~^{AST} sample matrix
15:10Photo #2 15:21 W general
vicinityPhoto #3 15:22 W house in
background

Andrew L. Taft 4/20/10

(10)

STA-25-SS HW11009

905 Taft St

A & B

1001-A & B Stonewall

Sampling location # 42 feet

from ~~1001~~^{AST} Taft, 56 feet from
905

1001 Stonewall on Taft property

GPS 33.02216 ± 13
85.05128

0"-4" depth (sample interval)

Collection time: 15:50

Method: stainless spoon

Photo #1 16:18 matrix

Photo #2 W 16:26 vicinity

Photo #3 W 16:28

Andrew L. Taft 4/20/10

SECTION 4: Papetti Logbook – 04/20/2010

4-20-10

0800 Depart note 1

STA-27-SS

HW 11012

Samplers: Larry, Greg

Time: 0930

Method: Digging w/spoon

Containers: 3 on cores, 14 oz glass,

4-8 oz. glass, 1-w/m. plastic

Physical Desc: Red-brown, silt +

fine-sand w/ roots, organic, gravel

Gravel, fibrous cloth-like material present.

GPS 33.0271 / 85.05035, + 16'

Measurements of sample location

5' W. of curb, under magnolia tree

43' S. & 43' W. of Pump house (see loc. of

Photos)

close-up - 138-matrix.

Mid: 14) SW

Far: 14) SW Sample next
to NA Pasting Sign on left

4-20-10

4-20-10

Johnny Norred splittings

2 amp MC

Metals 1.16 oz plate

Rest 1.4 oz S/100

PCB 1. "

M/- 1. "

Began sort. sample @ 3" depth
after scraping lead bottom

~~Mr. Norred has not for~~

~~4/20/10~~

STA-27-SUB HW 11013

Samplers: Lacey Greig

Time 0955

Method: Hand Auger

Containers: Same as P.105

Physical Desc: Red-brown
silty clay.

GPS P.105

Measure of location

P-105 2'-3' deep

Photos

Close 139 m4r12

Mid P.105

Far P.105

~~4/20/10~~

Mo Nostril Split

VOCA 4 oz S/L

MATCH 8 oz P/L

PCB 100% Filled 133% S/L

REST 4 oz S/L

4/20/10

~~SHA-22-SS 4.4.11.005~~

~~Sampler Larry, Greg 11008~~

~~Time 2:32.5 1245~~

~~Method Spoon~~

~~CONTAINER Collected Duplicate~~

~~Max Plastic Wm, 2x 8 oz glass 8x 8 oz skin~~

~~PCB Core (Same as others for)~~

~~Descr Red Silty Clay~~

~~GPS 32.02178/85.05036
± 14'~~

~~Measure ~20' W. of Creek, even
with point along fence around pond that is
577' N. of SW corner fence post
PHOTOS~~

~~C108 143 Marker~~

~~At 145 View E Plant
in background.~~

~~501 144 View SW.
House in background.~~

~~Entire page crossed out~~

~~4/20/10~~

STA-22-SS/HW 11005

Samplers: Lacey, Greg.

Time: 12:45

Method: Spoon

Containers: Same as other soils.

Description: Mr. Norred said is Lyr.
old soil, clayey silt to silt/clay,
Red-brown. scraped off ~ 3"
below grass. Began there.
Slightly gravelly

GPS 33.02132/85.05047, ±20'

Measurements: Middle of berm
at point even w/ point on fence
line, 386' N. of southwestern
caser post (fence around pond)

Photos -

142 matrix

146 View W. House in background

147 View E., plant in bkgd.

for 4/20/10

STA-24-SS HW 11007

~~to collect Duplicate~~

Samplers: Greg, Lacey 11008 (duplicate)

Time: 12:45 BAK

Method: Spoon/Hand Auger

Containers: 4 on core, 4-8oz,
1-4 oz. 1 w/ 11 Plastic
No Split

Description: Mr. Norred
said it is 1 year old

fine clayey silt to silt/
clay. Red-brown. scraped
off ~ 3" beneath grass
Began there, slightly gravelly

GPS 33.02132/85.05047, ±20'

Measure.

Photos

Close 142 matrix

Mid-Middle of berm 386'
N. of SW fence post around pond
far

Mid-146 View W. House in bkgd.

147 View E. plant

in background.

Entire page crossed out

for 4-20-10

located in middle of
beam, 386 N. of
SW corner post of
face of road post.

STA-24-SS/HW 11007 + HW 11008
is duplicate

Sampler: Long, Gies

Time: 1320

Method: Hand auger + spoon

Containers: Same as other soil
but two sets (one for duplicate)

Description: Red silty clay

GPS: ³³ 33.04940 / 85.05086 ± 14'

Measurement: 20' west of
creek, even w/ point along
fence around post that is 577'
N. of SW corner post

Photo

Matrix 143

144 View SW.
House in bkgd.

145 View E.
Plant in bkgd.

4/20/10

HW 10999

Location: Rural

Sampler: Long, Gies

Time: 1520

Method: Hand Auger

Containers: As other soil

Description: Red silty clay

GPS: 33.04940 / 85.03731 ± 21'

Measurement: 75' Due N.
of concrete pad underneath dumpster
at center, center near tree line
E top of hill.
Photo

Matrix: 148

4/29/10

HW 11000

subsurface backsign

Samples - Larry, Gage 2³ depth

Time: 15:50

Method: Hand auger

Containers - as other
Earl Sample

Description - Red silt

Clay - Saponitic 3' (micaceous)

GPS same as 6-113 banded

Measurements - 16.1

Photos -

149 Match

150 View NE.

Picket fence in
bgd.

151 View SW

bleachers in bgd.

1730 Leave for home.

11
/

4-20-10